597

THE NIMBUS 6 DATA CATALOG
VOLUME 7

1 JULY 1976 THROUGH 31 AUGUST 1976
DATA ORBITS 5156 THROUGH 5985

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GODDARD SPACE FLIGHT CENTER
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FOREWORD

This is the seventh volume of a series of catalogs to be published by the National Aeronautics and Space Administration to document data acquired from the Nimbus 6 meteorological satellite. This volume covers the period from 1 July 1976 through 31 August 1976. Subsequent catalogs will contain documentation for succeeding periods throughout the useful lifetime of Nimbus 6.

Background information concerning the Nimbus 6 meteorological satellite system and a description of the experiments and data formats has been published separately in The Nimbus 6 User's Guide. Post-launch User's Guide information changes and corrections are included in the data catalogs. The Nimbus 6 catalogs present the type of data available, anomalies in the data, if any, and geographic location and time of the data.

The assembly and editing of this catalog was accomplished by the Management and Technical Services Company (MATSCO), Beltsville, Maryland, under contract number NAS5-23740 with the Goddard Space Flight Center, NASA, Greenbelt, Maryland.

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CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF TABLES (Continued)

SECTION 1

SUMMARY OF OPERATIONS

1.1 Introduction

Nimbus 6 was successfully launched from the Western Test Range, Vandenberg Air Force Base, California at 08 hr. 12 min. 00 sec. GMT on 12 June 1975. The Orbit was nearly circular at 1093 × 1105 km. Satellite operations from launch through 14 July (orbit 425) consisted of engineering evaluation of all spacecraft systems. As a result of that effort, data reception, accountability and processing were intermittent during that period. Therefore, Volume 1 in this catalog series mainly reflects documentation from orbit 426 (14 July) through orbit 1082 (31 August). During orbit 4905 (12 June), Nimbus 6 successfully completed one year of operations. Table 1-1 is a summary of the documentation for each Nimbus 6 Data Catalog volume.

Because the spacecraft power is limited, all experiments are not on the same time. During this catalog period the THIR, ESMR, ERB, PMR and TWERLE were recorded for almost all orbits. Normally, the procedure has been to have the ERB and ESMR split their time; however, a new schedule has been implemented and both sensors are operating simultaneously. ESMR data quality from both Horizontal and Vertical channels is good. These data are being used in the analysis of hurricanes and tropical storms. The SCAMS instrument functioned through orbit 4751 (31 May); after the above mentioned orbit, the SCAMS instrument ceased to function due to a scan mechanism anomaly (see Section 5.3) this catalog. The HIRS instrument failed during orbit 4697 (27 May) when a filter chopper motor anomaly occurred. As a precautionary measure, the HIRS subsystem was turned off. The T&DRE was not operational during this catalog period. Due to the depletion of methane in the cryogenic cooler, the last useable data from the LRIR experiment was received during orbit 2801 (7 January). The on-off cycle for each experiment is shown in Table 2-2 in Section 2 of this catalog.

Table 1-1
Nimbus 6 Catalog Documentation Summary

Volume	Dates	Orbits
1	12 June 75-31 Aug. 75	1-1082
2	1 Sept. 75-31 Oct. 75	1083-1900
3	1 Nov. 75-31 Dec. 75	1901-2717
4	1 Jan. 76-29 Feb. 76	2718-3521
5	1 Mar. 76-30 Apr. 76	3522-4338
6	1 May 76-30 Jun. 76	4339-5155
7	1 July 76-31 Aug. 76	5156-5985

Because of an anomaly in the functioning of the High Data Range Storage subsystem (HDRSS) B, first noted during orbit 33 (14 June), HDRSS B has been limited to 65 minutes of record capability (out of a possible 120 minutes). With only HDRSS B available for full-time use, there are occasional periods when global experiment coverage is not obtained. (These occur when the Orroral, Australia STDN station is not available for playback of recorded experiment data.) The areas not covered are usually over the western part of the Pacific Ocean and/or the eastern part of the Atlantic Ocean. During orbit 4641 the HDRSS A recorder failed to record. Prior to the above date, HDRSS A was successfully used operationally 120 minutes every other orbit with HDRSS B providing 65 minutes of alternate coverage. Complete failure of HDRSS A occurred during orbit 4713 and despite many attempts to engage the system in a record mode, it has not recorded since orbit 4713 (28 May). The areas most affected by the lack of HDRSS A experiment coverage are the latitudes north of the Equator during the nighttime orbital passes. The daytime coverage remains virtually unchanged with the exception as noted in the above paragraph.

The pitch of the Nimbus 6 satellite has been made to alternate between +2.0 degrees, +0.6 degrees, and 0.0 degrees since launch. Table 1-2 lists the orbits when each pitch position was used.

A positive pitch angle of 0.6 degrees moves the nadir-looking position 11.5 kilometers ahead of the subsatellite point. A positive pitch angle of 2.0 degrees moves the nadir-looking position 38.3 kilometers ahead of the subsatellite point.

At these pitch angles, a scanner-type instrument no longer scans the earth along a great circle arc through the subpoint, but scans along the small circle formed by the intersection of the scan plane with the earth. Since the plane of the small circle is tilted with respect to the nominal scan plane, points on the arc are displaced farther from the great circle as the scan angle increases. As noted above, a pitch angle of 0.6 degrees causes a displacement of 11.5 kilometers at nadir, but when the scanner turns 45 degrees away from nadir the displacement increases slightly to 12.8 kilometers. Similarly, for a 2.0 degree pitch the displacement is 38.3 kilometers at nadir and increases to 42.6 kilometers at a 45 degree scan angle. Thus, although the instrument records in lines normal to the orbit plane (in the absence of yaw) the perpendicular displacement from the perfect-attitude scan line is not uniform across the scan line.

Subsections 1.2 through 1.10 of this catalog summarize the operational highlights of the individual experiments, present preliminary experiment results, and call attention to known data anomalies. Section 2 lists the on-off times for each experiment and provides a method for determining the geographical coverage of each experiment. Section 3 shows selected ESMR images, and Section 4 presents THIR montages. Section 5 presents corrections to The Nimbus 6 User's Guide.

The user is referred to The Nimbus 6 User's Guide for a complete description of each experiment and to Section 1.7 of that Guide for the requesting procedure and sources for all data. Sections 2, 3, and 4 of this Data Catalog should help users select data to meet their needs.

Table 1-2
Pitch Positions for Nimbus 6
01 July thru 01 September 1976 (Orbits 5156-5990)

Pitch Change			Pitch Bias	
Date (1976)	Orbit and STDN	Time (GMT)	+0.6°	+0.0°
1 July	5163A	1405		X
1 July	5169W	0051	X	
2 July	5176A	1323		X
3 July	5182A	0000	X	
3 July	5190A	1428		X
3 July	5194A	2129	X	
4 July	5201A	1018		X
4 July	5207A	2048	X	
5 July	5216A	1306		X
5 July	5221A	2152	X	
6 July	5229A	1228		X
6 July	5234A	2110	X	
7 July	5244A	1000		X
7 July	5247A	2030	X	
8 July	5255A	1104		X
8 July	5261A	2138	X	
9 July	5269A	1208		X
9 July	5274A	2052	X	
10 July	5282A	1125		X
10 July	5288A	2157	X	
11 July	5297A	1410		X
11 July	5302A	2303	X	
12 July	5308A	1003		X
12 July	5314A	2035	X	
13 July	5322A	1107		X
13 July	5328A	2138	X	
14 July	5336A	1213		X
14 July	5342A	2240	X	
15 July	5350A	1318		X
15 July	5355A	2203	X	
16 July	5362A	1049		X
16 July	5368A	2121	X	
17 July	5375A	1011		X
17 July	5382A	2225	X	
18 July	5389A	1108		X
18 July	5395A	2144	X	
19 July	5403A	1219		X
20 July	5410O	0148	X	
20 July	5412R	0435		X

Table 1-2 (Continued)

Pitch Change			Pitch Bias	
Date (1976)	Orbit and STDN	Time (GMT)	+0.6°	+0.0°
20 July	5416A	1135	X	
20 July	5422A	2210		X
20 July	5422A	2211	X	
21 July	5428A	0927		X
21 July	5430A	1241	X	
21 July	5430A	1241		X
21 July	5435A	2127	X	
22 July	5443A	1158		X
22 July	5449A	2231	X	
23 July	5456A	1117		X
23 July	5462A	2147	X	
24 July	5470A	1220		X
24 July	5476A	2254	X	
25 July	5484A	1326		X
25 July	5490A	2359	X	
26 July	5496A	1056		X
26 July	5502A	2127	X	
27 July	5511A	1346		X
28 July	5517O	0134	X	
28 July	5527A	1820		X
29 July	5536A	1039	X	
30 July	5546R	0447		X
30 July	5554A	1843	X	
31 July	5564A	1247		X
31 July	5570O	2335	X	
1 August	5577A	1205		X
1 August	5583W	2253	X	
2 August	5591A	1310		X
2 August	5597A	2340	X	
3 August	5603A	1043		X
3 August	5608A	1959	X	
4 August	5615A	0814		X
4 August	5621A	1846	X	
5 August	5629A	0920		X
5 August	5635A	1953	X	
6 August	5642A	0840		X
6 August	5648A	1909	X	
7 August	5653R	0430		X
7 August	5661A	1842	X	
8 August	5667R	0537		X
8 August	5671A	1234	X	

Table 1-2 (Continued)

Pitch Change			Pitch Bias	
Date (1976)	Orbit and STDN	Time (GMT)	+0.6°	+0.0°
9 August	5678O	0210		X
9 August	5686A	1525	X	
10 August	5696A	0919		X
10 August	5703A	2141	X	
11 August	5703A	2141		X
12 August	5718W	0554	X	
12 August	5725A	1321		X
12 August	5729A	2024	X	
13 August	5737A	1054		X
13 August	5743A	2125	X	
14 August	5751A	1157		X
14 August	5753A	1525	X	
14 August	5753A	1526		X
14 August	5756A	2043	X	
15 August	5763A	0930		X
15 August	5769A	1958	X	
16 August	5777A	1034		X
16 August	5783A	2105	X	
17 August	5790A	0953		X
17 August	5798O	0110	X	
18 August	5807A	1614		X
18 August	5810A	2127	X	
19 August	5816A	0829		X
19 August	5823A	2047	X	
20 August	5831A	1121		X
20 August	5837A	2152	X	
21 August	5845A	1227		X
21 August	5851A	2259	X	
22 August	5857A	0956		X
22 August	5863A	2027	X	
23 August	5870A	0913		X
23 August	5876A	1946	X	
24 August	5883A	0835		X
24 August	5890A	2051	X	
25 August	5898A	1123		X
25 August	5905A	2344	X	
26 August	5913A	1413		X
26 August	5918A	2259	X	
27 August	5924A	1001		X
27 August	5930A	2035	X	

Table 1-2 (Continued)

Pitch Change			Pitch Bias	
Date (1976)	Orbit and STDN	Time (GMT)	+0.6°	+0.0°
28 August	5950A	0837		X
29 August	5958A	2242	X	
30 August	5965O	1201		X
30 August	5972A	2348	X	
31 August	5978A	1046		X
31 August	5984A	2119	X	
1 Sept.	5990A	0816		X

A = Fairbanks, Alaska
O = Orroral, Australia
E = Goddard Space Flight Center, Maryland
R = Rosman, North Carolina
W = Winkfield, England

1.2 The Temperature Humidity Infrared Radiometer (THIR) Subsystem

The quality of the THIR data from both channels (11.5 um and 6.7 um) and telemetry have been good since launch. Daily world montages of the THIR are presented in Section 4 of this catalog. All processed THIR film is archived and available through the National Space Science Data Center, as is all available THIR digital data. The THIR digital products are processed to final format only on request. Users should refer to Section 4 of this catalog, and to Sections 1.7 and 2.4 of The Nimbus 6 User's Guide for a discussion of the formats and procedure to order these products.

1.3 The High Resolution Infrared Radiation Sounder (HIRS) Experiment

During this reporting period, the HIRS instrumentation system did not operate. The last operational data was obtained during orbit 4697 (27 May) when a subsystem anomaly (Filter Chopper motor failed) occurred; causing the subsystem to be turned off as a precautionary move. Subsequent operations after orbit 4697 are to be construed as evaluations of the subsystem anomaly. Valid operational data is not available after the above date (27 May 1976).

1.4 The Scanning Microwave Spectrometer (SCAMS) Experiment

The instrument ceased functioning during orbit 4751 (31 May) due to jamming of the scan mechanism. Scan problems as discussed in Volume 5 first developed during orbit 3862 (26 March), when the drive belt for channel 2 (31. 65 Ghz) antenna started slipping. The loss of data from channel 2 prevented retrieval of atmospheric water vapor and liquid water during said catalog period; the inversion matrices for atmospheric temperature were redefined to exclude channel 2, and temperature retrievals were continued until 31 May. (Since this last date, various improvements have been made with respect to data retrieval, calibration of oxygen band channel and inversion of H_2O channels. For a current summary of events as relates to SCAMS, see Section 5.3.)

1.5 The Electrically Scanning Microwave Radiometer (ESMR) Experiment

The ESMR performance continued to be satisfactory during this catalog period. As stated in Volume 6, the ESMR continues to operate on a full-time basis and will continue this schedule through the hurricane season. The Gunn oscillator and hot reference temperature continued to run at a higher than expected temperature with no adverse results on the data. Selected ESMR images for this catalog period appear in Section 3.

1.6 The Earth Radiation Budget (ERB) Experiment

The Solar and wide-angle Earth-Flux channels continued to operate in the non-scanning mode. The data quality is good and the ERB sensor is operating full-time as power permits. The scanning channels operate only in the nadir position because of mechanical scan problems.

1.7 The Limb Radiance Inversion Radiometer (LRIR) Experiment

The last useable data from the LRIR was received during orbit 2801 (7 January). By this orbit the methane used to cool the detector was depleted and the telemetry indicating the detector temperature was saturated at 73.6°K. The ammonia temperature was constant until orbit 2787 (6 January) when it began to increase and then became erratic-varying from 145.6°K to 150.0°K. An orbit 2802 (7 January) the temperature of 145.6°K began increasing and by orbit 2806 it was at 165.7°K, when the LRIR was turned off. Since the above date, the experiment has been turned on during several occasions to record the ammonia temperature. The last reading, orbit 5014 (20 June) indicated that the cryogen shield temperature reached telemetry saturation at 263°K. With all of the coolants (Methane-ammonia) depleted and useable experiment data non-existent; the LRIR is expected to be in a permanent non-operational mode even though the instrument and telemetry are completely functional.

1.8 The Pressure Modulator Radiometer (PMR) Experiment

The PMR performance was satisfactory during this reporting period. The instrument was on continuously. Data quality was good.

From orbit 1727 (19 October) through orbit 5526 (28 July), channel 1 operated in the nadir-looking mode. This was necessary because in the scan mode this channel appears to operate between $\pm 10°$ from nadir rather than $\pm 15°$ from nadir. During orbit 5526, channel 1 was enabled for 5 minutes and then 60 minutes during orbit 5594 (2 August). Since orbit 5633 (5 August) channel 1 scan operations have been satisfactory. Data quality from both channels are satisfactory. All acquired data was routinely transmitted from GSFC to the experimenter at Oxford, England.

1.9 The Tropical Wind Energy Conversion and Reference Level Experiment (TWERLE)

The TWERLE continued to operate very well during this catalog period. Determination, location accuracy of system reference platforms was temporarily affected during the orbital period 4600 through 4780. This effect was due to the negative drag factor caused by the outgassing of the LRIR cryogen (NH_3). During this time-frame proper corrections and the constant updating of the ephemeris time slip held location errors to well within system specifications of 1.5 kilometers of their true position.

As of 12 June 1976, (Nimbus 6 one year anniversary) over 700 platforms had been activated. Table 1-3 shows distribution of these platforms. The full address of each experimenter is given in Table 9-2 in the Nimbus 6 User's Guide. (Corrected addresses for many of these experimenters, and addresses for several new experimenters, are given in Section 5.8 of this catalog.) Anyone interested in results from a particular experiment should write to the principal investigator for that experiment.

1.10 The Tracking and Data Relay Experiment (T&DRE)

The T&DRE performance was satisfactory during this catalog period. The orbits when the T&DRE was operated are listed in Table 2-2 in Section 2. Significant accomplishments of T&DRE are discussed in Data Catalog Volume 1, Section 1.10.

Table 1-3

TWERLE Platform Activity as of 12 June 1976

Principal Investigator	Platform			
	Type	Active	Inactive	Total
Dr. Paul R. Julian Boulder, Colorado	Balloons	81	275	356
Professor Norbert Untersteiner Seattle, Washington	Ice Buoys	26	6	32
Dr. Hanson Miami, Florida	Drifting Buoys	12	33	45
Mr. Vincent Lally Boulder, Colorado	Balloons	0	21	21

Table 1-3 (continued)

Principal Investigator	Platform			
	Type	Active	Inactive	Total
Dr. P. Richardson Woods Hole, Massachusetts	Drifting Buoys	0	1	1
Arnold Gordon Palisades, New York	Drifting Buoys	4	20	24
Tim P. Barnett La Jolla, California	Drifting Buoys	3	13	16
Mr. Robert Kee Washington, D.C.	Drifting Buoys	0	2	2
Mr. R. E. Vockeroth Ontario, Canada	Buoys	2	0	2
Mr. Jack Lentfer Anchorage, Alaska	Polar Bears	1	1	2
Mr. B. M. Buck Santa Barbara, California	Drifting Buoys	3	2	5
Mr. Fernando DeMendonca Sao Paulo, Brazil	Buoys	0	2	2
Mr. George Cresswell Cronulla, Australia	Drifting Buoys	9	5	14
Dr. A. Dyer Mordialloc, Australia	Drifting Buoys	0	3	3
Professor Lacombe Paris, France	Drifting Buoys	1	4	5
Mr. C. K. Jenson/J. Nordo Oslo, Norway	Buoys	2	0	2
Mr. T. Haegh/T.Vinje Oslo, Norway	Ice Buoys	5	5	10
Mr. Frank Anderson Congella, South Africa	Drifting Buoys	5	5	10
Professor H. Stommel Cambridge, Massachusetts	Drifting Buoys	0	6	6
Dr. A. D. Kirwan, Jr. College Station, Texas	Drifting Buoys	0	12	12

Table 1-3 (continued)

Principal Investigator	Platform			
	Type	Active	Inactive	Total
Mr. H. N. Brann Melbourne, Australia	Drifting Buoys	1	5	6
Professor Morel Paris, France	Balloons & Buoys	0	47	47
Dr. John Garrett Victoria, B.C. Canada	Drifting Buoys	2	33	35
Professor Tchernia Paris, France	Drifting Buoys	3	2	5
Mr. R. R. Dickson Lowestoft, Suffolk, U. K.	Drifting Buoys	1	5	6
Dr. Michael Hall Bay St. Louis, Mississippi	Buoys	9	10	19
Mr. David Thomas, Jr. Hampton, Virginia	Buoys	0	6	6
Dr. J. Williamson La Jolla, California	Balloons	0	1	1
Mr. J. C. O'Rourke Calgary, Canada	Buoys	2	0	2
Mr. Robert Oehlkers Madison, Wisconsin	Buoys	2	8	10
Capt. E. A. Delaney Washington, D.C.	Buoys	1	0	1
Dr. R. H. Goodman Alberta, Canada	Buoys	1	1	2
Dr. D. Halpern Seattle, Washington	Buoys	2	1	3
TOTALS		178	535	713

SECTION 2

THE ORBITAL ELEMENTS AND DATA AVAILABILITY ON-OFF TIMES

This section presents the Nimbus orbital elements for selected epochs, tabulates the time when each of the experiments was recording data, and gives procedures for determining the time and orbit when the satellite is over a given geographical area (and thus determining the location of coverage for each experiment).

The Nimbus 6 Brouwer Mean orbital elements for selected epochs during July and August 1976 are listed in Table 2-1

Since 26 May, the orbital period appears to have stabilized and has remained almost constant at 107.418 minutes. Thus with the depletion of the solid methane and ammonia from the LRIR now complete; the predicted (Vol. 4, Sec. 2) stabilization of the orbital period by mid-1976 has been confirmed. When these elements are used more than seven days from epoch, however, location errors of greater than 60 km (about ten seconds of time), can be expected. If more accurate ephemeris are needed for a specific time period, write to the Nimbus Project, Code 430, Goddard Space Flight Center, Greenbelt, Maryland 20771.

The data availability on-off times, listed in Table 2-2, are the times when the data from each experiment was recorded on a HDRSS and processed through the Meteorological Data Handling System (MDHS) at Goddard Space Flight Center. The Table 2-2 header labels and their meaning are as follows:

- INT ORBIT AND STDN

  The satellite orbit number in progress when the satellite data is relayed to a ground station is called the interrogation orbit (INT ORBIT). The ground stations receiving the Nimbus 6 satellite data are part of the Spacecraft and Tracking Data Network (STDN). There are five STDN stations receiving Nimbus 6 experiment data: Fairbanks, Alaska (denoted by the letter "A"); Rosman, North Carolina (R); Orroral, Australia (O); Winkfield, England (W); and Goddard Space Flight Center, Maryland (E).

- HDRS

  The HDRS (High Data Rate Storage System - HDRSS) is the acronym for the satellite tape recorder system. Recorder "A" or "B" (or both) is played back during each STDN station interrogation.

Table 2-1
Nimbus 6 Brouwer Mean Orbital Elements for
July and August 1976

Epoch	GMT	12 July 76 00 00 00	23 July 76 00 00 00	13 Aug. 76 00 00 00	27 Aug. 76 00 00 00
Semi-Major Axis	Km	7485.374	7485.371	7485.370	7485.367
Eccentricity	Km	.000791	.000756	.000710	.000707
Inclination	Degrees	99.954	99.952	99.950	99.949
Argument of Perigee	Degrees	17.263	350.018	296.134	258.075
Right Ascension of Ascending Node	Degrees	105.506	116.298	136.897	150.629
Height of Perigee	Km	1101.23	1101.54	1101.89	1101.91
Height of Apogee	Km	1113.13	1112.87	1112.52	1112.49
Anomalistic Period	Minutes	107.41817	107.41810	107.41807	107.41801
Motion of Perigee	Deg. Per Day	-2.4197	-2.4199	-2.4200	-2.4201

- HDRSS TIME ON-OFF

The HDRSS ON and OFF times are given in GMT to the nearest minute. The ON time is the time the (A or B) HDRSS begins recording experiment measurements; the OFF time is when it stops recording. Usually, the ON and OFF times occurs when the satellite is within acquisition range on one of the four STDN stations. The time span between each ON and OFF usually covers part of two DATA ORBITS.

- LRIR, THIR, TDRE, SCAM, ESMR, ERB, PMR, TWRL, HIRS

These are the acronyms for each of the experiments on Nimbus 6. (Acronyms longer than four letters have been shortened.) The column beneath each acronym contains a series of "X's" or "blanks." Each "X" in the column indicates that the experiment was turned on for the HDRSS ON-OFF time in that line. A single "blank" in the middle of a series of "X's" frequently means that the experiment was on during that time span but the data has not been processed, or is unavailable for any of several reasons.

- DATA ORBIT

  A DATA ORBIT begins when the satellite crosses the equator heading in a northbound direction, and ends after the satellite has circled the earth and is about to cross the equator heading in a northbound direction. The DATA ORBIT number increases by one with each successive northbound equator crossing. The ASCENDING NODE and DESCENDING NODE information is referenced to the DATA ORBIT number.

- ASCENDING NODE TIME (and) LONG

  The ASCENDING NODE is the point in the orbit when the satellite crosses the equator heading in a northbound direction. The TIME of ASCENDING NODE is given in hours (HR), minutes (MN), and seconds (SS) GMT. The longitude (LONG) of ASCENDING NODE is given to the nearest tenth of a degree of east (E) or west (W) longitude. For Nimbus 6, the ascending node crossings always occur during the daytime portion of the orbit at approximately 11:45 a.m. local time.

- DESCENDING NODE TIME (and) LONG

  The DESCENDING NODE is the point within a DATA ORBIT when the satellite crosses the equator heading in a southbound direction. The TIME of DESCENDING NODE is given in hours (HR), minutes (MN), and seconds (SS) GMT. The longitude (LONG) of DESCENDING NODE is given to the nearest degree of east (E) or west (W) longitude. The descending node crossings always occur during the nighttime portion of each orbit at approximately 11:45 p.m. local time.

Table 2-2 together with the World Map (Figure 2-1) and the vellum Subsatellite Tracks Overlay attached to the back of this catalog, can be used to determine approximate geographic coverages and times for experiment data that the user may wish to order. The Overlay contains 14 correctly spaced satellite subpoint tracks, which end at the approximate earth day-to-night transitions. The tracks contain time ticks spaced 5 minutes apart, approximately annotated at the edge of the overlay and referenced to the equator.

Orbital coverage for all orbits on any day is then determined by placing one of the orbit tracks on the overlay at its appropriate ascending node (for daytime data) or descending node (for nighttime data) longitude. (The nodes for each day are listed in Table 2-2.) The orbit track (or tracks) which covers the area of interest is readily apparent.

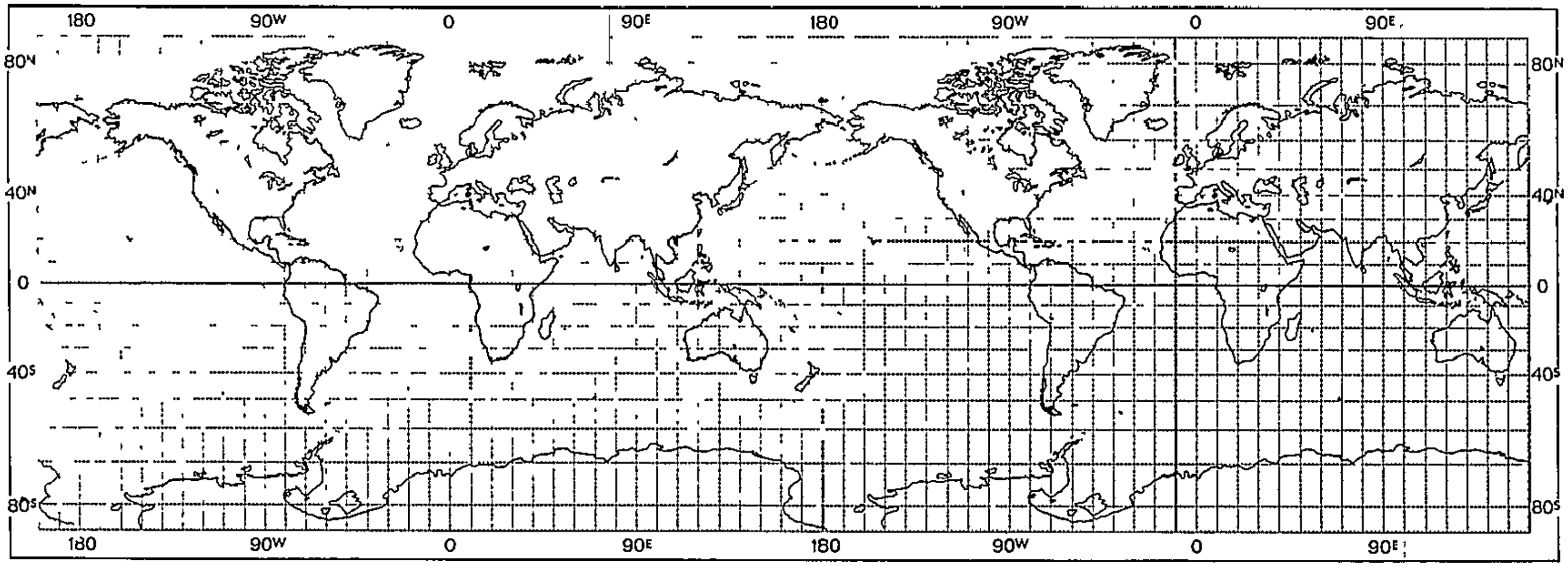

Figure 2-1. World Map

The time (GMT) of satellite passage over an area of interest is calculated by adding or subtracting the minutes from equator crossing (as determined from the overlay) to the appropriate node time (derived from Table 2-2). For daytime orbits, time is added to the ascending node for areas north of the equator, and subtracted from the ascending node for areas south of the equator. For nighttime orbits, time is subtracted from the descending node for areas north of the equator, and added to the descending node for areas south of the equator.

To determine if an experiment was ON during the calculated orbit and time of interest, the user must first "fit" the calculated time into the correct ON-OFF interval of an interrogation orbit listed in Table 2-2. Then the user must check the appropriate experiment column for that line. If an "X" is in the column, the experiment was on and the data has been processed. If the column is "blank", the experiment was off (or the data was not processed) and no data for that orbit is available.

An alternate method of determining geographic coverage and time of data is to use the method described in Section 4. The THIR montages and the vellum Location Guides (attached in the back of this catalog) are used to locate the geographical coverage of each orbit of THIR. The data coverage from other experiments will be within the limits of each THIR swath. The TIME of coverage over a particular area is obtained by using Table 4-1 and adding or subtracting this computed time to the appropriate ascending or descending node time given in Table 2-2.

Each request for data should contain, as a minimum, the name of the experiment for which data is requested, the calendar date of the data, the orbit, the time (GMT) interval of the data needed, and the geographic limits of the area of interest. The procedures described above will provide this information.

The nature and format of the data available from each experiment are explained in detail in the respective sections of The Nimbus 6 User's Guide. The appropriate sources for requesting the various data types are listed in Section 1.7 of the same manual.

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
01 JULY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	SFRB	PMBR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5155O	3	2337	0100					X	X	X	X		5156	010312	E159.8	015652	W033.6
5156O	3	0054	0248					X	X	X	X		5157	034423	E132.9	034423	W060.5
5158R	3	0412	0528		X			X	X	X	X		5158	053155	E106.0	053155	W087.4
5159A	3	0557	0713		X			X	X	X	X		5159	071927	E079.1	071927	W114.3
5160A	3	0737	0854		X			X	X	X	X		5160	090659	E052.2	090659	W141.2
5161A	3	0924	1042		X			X	X	X	X		5161	105431	E025.4	105431	W168.1
5162A	3	1109	1229		X			X	X	X	X		5162	124202	W001.6	124202	E165.1
5163A	3	1256	1408		X			X	X	X	X		5163	142934	W028.4	142934	E138.2
5164A	3	1438	1556		X			X	X	X	X		5164	161706	W055.3	161706	E111.3
5165A	3	1622	1741		X			X	X	X	X		5165	180438	W082.2	180438	E084.4
5166A	3	1808	1928		X			X	X	X	X		5166	195209	W109.0	195209	E057.5
5167A	3	1935	2113	X	X	X		X	X	X	X	X	5167	213941	W135.9	213941	E030.7
5168A	3	2142	2258		X			X	X	X	X		5168	232713	W162.8	232713	E003.8

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
02 JULY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	SFRB	PMBR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5171R	3	0332	0448		X			X	X	X	X		5169	002105	E170.3	011445	W023.1
5172R	3	0516	0633		X			X	X	X	X		5170	020837	E143.4	030217	W050.0
5173A	3	0656	0811		X			X	X	X	X		5171	035609	E116.5	044948	W076.9
5174A	3	0841	1000		X			X	X	X	X		5172	054340	E089.7	063720	W103.8
5175A	3	1028	1131		X			X	X	X	X		5173	073112	E062.8	082452	W130.6
5176A	3	1213	1325		X			X	X	X	X		5174	091849	E035.9	101224	W157.5
5177A	3	1358	1516		X			X	X	X	X		5175	110616	E009.0	115955	E175.6
5178A	3	1528	1643		X			X	X	X	X		5176	125347	W017.9	134727	E148.7
5179A	3	1726	1846		X			X	X	X	X		5177	144119	W044.9	153459	E121.8
5180A	3	1913	2032		X			X	X	X	X		5178	162851	W071.7	172231	E094.0
5182A	3	2250	0003		X			X	X	X	X		5179	181623	W098.6	191002	E068.1
													5180	200355	W125.5	205734	E041.2
													5181	215126	W152.3	224506	E014.3
													5182	233858	W179.2	003238	W012.6

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TABLE 2-2
DATA AVILABILITY ON-OFF TIMES
03 JULY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	ERB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5182O	3	0002	0123					X	X	X	X		5183	012630	E153.9	022010	W039.5
5183O	3	0118	0222					X	X	X	X		5184	031402	E127.0	040741	W066.4
5184R	3	0308	0359		X			X	X	X	X		5185	050133	E100.2	055513	W093.2
5185R	3	0433	0552		X			X	X	X	X		5186	064905	E073.3	074245	W120.1
5186R	3	0621	0733		X			X	X	X	X		5187	083637	E046.4	093017	W147.0
5187A	3	0800	0918		X			X	X	X	X		5188	102409	E019.5	111748	W173.9
5188A	3	0946	1105		X			X	X	X	X		5189	121140	W007.4	130520	E159.2
5189A	3	1132	1252		X			X	X	X	X		5190	135912	W034.3	145252	E132.4
5190A	3	1317	1436		X			X	X	X	X		5191	154644	W061.1	164024	E105.5
5191A	3	1501	1618		X			X	X	X	X		5192	173416	W088.0	182756	E078.6
5192A	3	1645	1804		X			X	X	X	X		5193	192148	W114.9	201527	E051.7
5193A	3	1830	1951		X			X	X	X	X		5194	210919	W141.8	220259	E024.8
5194A	3	2018	2136		X			X	X	X	X		5195	225651	W168.2	235031	W002.1
5195A	3	2206	2322		X			X	X	X	X						

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
04 JULY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	ERB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5196O	3	2318	0039					X	X	X	X		5196	004423	E164.4	013803	W029.0
5198R	3	0353	0510		X			X	X	X	X		5197	023155	E137.6	032534	W055.9
5199R	3	0538	0655		X			X	X	X	X		5198	041926	E110.7	051306	W082.7
5201A	3	0904	1022		X			X	X	X	X		5199	060658	E083.8	070038	W109.6
5202A	3	1050	1201		X			X	X	X	X		5200	075430	E056.9	084810	W136.5
5203A	3	1236	1355		X			X	X	X	X		5201	094202	E030.0	103541	W163.4
5204A	3	1421	1539		X			X	X	X	X		5202	112933	E003.2	122313	E169.7
5205A	3	1605	1722		X			X	X	X	X		5203	131705	W023.7	141045	E142.8
5206A	3	1749	1908		X			X	X	X	X		5204	150437	W050.6	155817	E116.0
5207A	3	1937	2055		X			X	X	X	X		5205	165209	W077.5	174549	E089.1
5208A	3	2124	2240		X			X	X	X	X		5206	183940	W104.4	193320	E062.2
													5207	202712	W131.3	212052	E035.4
													5208	221444	W158.1	230824	E006.5

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
05 JULY 1976

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	T D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5209O	3	2332	0036					X	X	X	X		5209	000216	E175.0	005556	W018.4
5210O	B	0138	0243					X	X	X	X		5210	014948	E148.1	024328	W045.3
5211R	3	0325	0429		X			X	X	X	X		5211	033719	E121.2	043059	W072.2
5212R	3	0520	0616		X			X	X	X	X		5212	052451	E094.3	061831	W099.1
5213A	3	0637	0752		X			X	X	X	X		5213	071223	E067.4	080603	W126.0
5214A	B	0824	0941		X			X	X	X	X		5214	085955	E040.6	095335	W152.9
5215A	3	1009	1128		X			X	X	X	X		5215	104726	E013.7	114106	W179.7
5216A	3	1156	1314		X			X	X	X	X		5216	123458	W013.2	132838	E153.4
5217A	3	1340	1458		X			X	X	X	X		5217	142230	W040.1	151610	E126.5
5218A	3	1524	1641		X			X	X	X	X		5218	161002	W067.0	170342	E099.6
5219A	3	1708	1827		X			X	X	X	X		5219	175733	W093.8	185114	E072.7
5220A	B	1854	2014		X			X	X	X	X		5220	194505	W120.7	203845	E045.8
5221A	3	2041	2159		X			X	X	X	X		5221	213237	W147.6	222617	E019.0
5222A	3	2230	2344		X			X	X	X	X		5222	232009	W174.5	001349	W007.9

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
06 JULY 1976

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	T D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5222O	3	2342	0104					X	X	X	X		5223	010741	E158.6	020121	W034.8
5223O	3	0058	0203					X	X	X	X		5224	025514	E131.7	034854	W061.7
5225R	3	0416	0533		X			X	X	X	X		5225	044246	E104.8	053626	W088.5
5226R	3	0601	0717		X			X	X	X	X		5226	063018	E078.0	072358	W115.5
5227A	3	0741	0900		X			X	X	X	X		5227	081750	E051.1	091130	W142.3
5228A	3	0928	1047		X			X	X	X	X		5228	100521	E024.2	105902	W169.2
5229A	B	1113	1233		X			X	X	X	X		5229	115253	W002.7	124633	E163.9
5230A	3	1300	1417		X			X	X	X	X		5230	134025	W029.6	143405	E137.0
5231A	3	1444	1600		X			X	X	X	X		5231	152757	W056.5	162137	E110.2
5232A	3	1626	1745		X			X	X	X	X		5232	171529	W083.3	180909	E083.3
5233A	B	1812	1931		X			X	X	X	X		5233	190300	W110.2	195640	E056.4
5234A	B	2000	2118		X			X	X	X	X		5234	205032	W137.1	214412	E029.5
5235A	3	2146	2303		X			X	X	X	X		5235	223804	W164.6	233144	E002.6

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
07 JULY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	ERB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5236O	3	2354	0059					X	X	X	X		5236	002536	E169.1	011916	W024.3
5237O	3	0201	0306					X	X	X	X		5237	021307	E142.3	030648	W051.2
5238R	3	0348	0443		X			X	X	X	X		5238	040039	E115.4	045419	W078.1
5239R	3	0520	0638		X			X	X	X	X		5239	054811	E088.5	064151	W104.9
5240A	3	0700	0815		X			X	X	X	X		5240	073543	E061.6	082923	W131.8
5241A	3	0846	1003		X			X	X	X	X		5241	092314	E034.7	101655	W158.7
5242A	3	1032	1151		X			X	X	X	X		5242	111046	E007.8	120427	E174.4
5243A	3	1218	1331		X			X	X	X	X		5243	125818	W019.0	135158	E147.5
5244A	3	1402	1521		X			X	X	X	X		5244	144550	W045.9	153930	E120.6
5245A	3	1532	1652		X			X	X	X	X		5245	163322	W072.8	172702	E093.8
5246A	3	1730	1848		X			X	X	X	X		5246	182053	W099.7	191434	E066.9
5247A	3	1917	2033		X			X	X	X	X		5247	200825	W126.6	210205	E040.0
5248A	3	2105	2221		X			X	X	X	X		5248	215557	W153.5	224937	E013.2
5249A	3	2256	0007		X			X	X	X	X		5249	234329	E179.7	003709	W013.8

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
08 JULY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	ERB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5249O	3	0006	0128					X	X	X	X		5250	013100	E152.8	022441	W040.6
5250O	3	0122	0227					X	X	X	X		5251	031832	E125.9	041213	W067.5
5251R	3	0306	0409		X			X	X	X	X		5252	050604	E099.0	055944	W094.4
5252R	3	0437	0558		X			X	X	X	X		5253	065336	E072.1	074716	W121.3
5253A	3	0620	0732		X			X	X	X	X		5254	084108	E045.2	093448	W148.2
5254A	3	0804	0923		X			X	X	X	X		5255	102839	E018.4	112220	W175.1
5255A	3	0950	1110		X			X	X	X	X		5256	121611	W008.5	130952	E158.1
5256A	3	1136	1256		X			X	X	X	X		5257	140343	W035.4	145723	E131.2
5257A	3	1321	1440		X			X	X	X	X		5258	155115	W062.3	164455	E104.3
5258A	3	1505	1623		X			X	X	X	X		5259	173846	W089.2	183227	E077.4
5259A	3	1649	1807		X			X	X	X	X		5260	192618	W116.0	201959	E050.5
5260A	3	1835	1954		X			X	X	X	X		5261	211350	W142.9	220731	E023.6
5261A	3	2023	2140		X			X	X	X	X		5262	230122	W169.8	235502	W003.2
5262A	3	2210	2326		X			X	X	X	X						

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
09 JULY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	ERB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5265R	B	0358	0515		X			X	X	X	X		5263	004854	E163.3	014234	W030.1
5266R	B	0542	0700		X			X	X	X	X		5264	023625	E136.4	033006	W057.0
5267A	B	0723	0840		X			X	X	X	X		5265	042357	E109.5	051738	W083.9
5268A	B	0909	1027		X			X	X	X	X		5266	061129	E082.7	070509	W110.8
5269A	B	1055	1214		X			X	X	X	X		5267	075901	E055.8	085241	W137.6
5270A	B	1241	1358		X			X	X	X	X		5268	094632	E028.9	104013	W164.5
5271A	B	1425	1543		X			X	X	X	X		5269	113404	E002.0	122745	E168.6
5272A	B	1608	1727		X			X	X	X	X		5270	132136	W024.9	141517	E141.7
5274A	B	1941	2059		X			X	X	X	X		5271	150908	W051.8	160248	E114.8
5275A	B	2127	2239		X			X	X	X	X		5272	165639	W078.6	175020	E087.9
													5273	184411	W105.5	193752	E061.1
													5274	203143	W132.4	212524	E034.2
													5275	221915	W159.3	231255	E007.3

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
10 JULY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	ERB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5276O	B	2335	0039					X	X	X	X		5276	000647	E173.8	010027	W019.6
5277O	B	0145	0249					X	X	X	X		5277	015418	E147.0	024759	W046.5
5278R	B	0330	0432		X			X	X	X	X		5278	034150	E120.1	043531	W073.4
5279R	B	0501	0621		X			X	X	X	X		5279	052922	E093.2	062303	W100.2
5280A	B	0642	0757		X			X	X	X	X		5280	071654	E066.3	081034	W127.1
5281A	B	0827	0945		X			X	X	X	X		5281	090425	E039.4	095806	W154.0
5282A	B	1013	1133		X			X	X	X	X		5282	105157	E012.5	114538	E179.1
5283A	B	1159	1319		X			X	X	X	X		5283	123929	W014.4	133310	E152.2
5284A	B	1344	1502		X			X	X	X	X		5284	142701	W041.3	152041	E125.3
5285A	B	1527	1646		X			X	X	X	X		5285	161433	W068.1	170813	E098.5
5286A	B	1712	1832		X			X	X	X	X		5286	180204	W095.0	195546	E071.6
5287A	B	1858	2018		X			X	X	X	X		5287	194936	W121.9	204317	E044.7
5288A	B	2046	2204		X			X	X	X	X		5288	213708	W148.8	223049	E017.8
5289A	B	2235	2350		X			X	X	X	X		5289	232440	W175.6	001820	W009.1

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
11 JULY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	ERB	PMR	TWRL	THIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5289O	B	2347	0049					X	X	X	X		5290	011211	E157.5	020552	W035.9
5290O	B	0105	0209					X	X	X	X		5291	025943	E130.6	035324	W062.8
5292R	B	0422	0539		X			X	X	X	X		5292	044715	E103.7	054056	W089.7
5293R	B	0606	0723		X			X	X	X	X		5293	063447	E076.8	072828	W116.6
5294A	B	0746	0904		X			X	X	X	X		5294	082219	E050.0	091559	W143.5
5295A	B	0932	1051		X			X	X	X	X		5295	100950	E023.1	110331	W170.4
5296A	B	1118	1238		X			X	X	X	X		5296	115722	W003.8	125102	E162.8
5297A	B	1303	1422		X			X	X	X	X		5297	134454	W030.7	143835	E135.9
5298A	B	1447	1605		X			X	X	X	X		5298	153226	W057.6	162605	E109.0
5299A	B	1631	1750		X			X	X	X	X		5299	171957	W084.5	181338	E082.1
5300A	B	1816	1937		X			X	X	X	X		5300	190729	W111.4	200110	E055.2
5301A	B	2005	2122		X			X	X	X	X		5301	205501	W138.3	214842	E028.3
5302A	B	2151	2309		X			X	X	X	X		5302	224233	W165.1	233614	E001.5

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
12 JULY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	ERB	PMR	TWRL	THIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5303O	B	0000	0101					X	X	X	X		5303	003004	E168.0	012345	W025.4
5304O	B	0208	0311					X	X	X	X		5304	021736	E141.1	031117	W052.3
5305R	B	0353	0451		X			X	X	X	X		5305	040508	E114.2	045849	W079.2
5306R	B	0525	0637		X			X	X	X	X		5306	055240	E087.4	064621	W106.1
5307A	B	0705	0817		X			X	X	X	X		5307	074012	E060.5	083353	W133.0
5308A	B	0850	1006		X			X	X	X	X		5308	092743	E033.6	102124	W159.8
5309A	B	1036	1156		X			X	X	X	X		5309	111515	E006.7	120856	E173.3
5310A	B	1222	1341		X			X	X	X	X		5310	130247	W020.2	135628	E146.4
5311A	B	1407	1524		X			X	X	X	X		5311	145019	W047.1	154400	E119.5
5312A	B	1550	1709		X			X	X	X	X		5312	163750	W074.0	173131	E092.6
5313A	B	1735	1855		X			X	X	X	X		5313	182522	W100.8	191903	E065.8
5314A	B	1922	2041		X			X	X	X	X		5314	201254	W127.7	210635	E038.9
5315A	B	2109	2227		X			X	X	X	X		5315	220026	W154.6	225407	E012.0
5316A	B	2300	0013		X			X	X	X	X		5316	234758	E178.5	004139	W014.9

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TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
13 JULY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	FRB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5316O	3	0010	0113					Y	Y	X	X		5317	013529	E151.6	022911	W041.8
5317O	3	0127	0230					Y	Y	X	X		5318	032302	E124.8	041643	W068.7
5318P	3	0311	0414		Y			Y	X	Y	Y		5319	051034	E097.9	060415	W095.6
5319R	3	0441	0602		Y			Y	X	Y	X		5320	065806	E071.0	075147	W122.4
5320A	3	0623	0734		Y			X	Y	X	Y		5321	084538	E044.1	093919	W149.7
5321A	3	0809	0927		X			Y	X	Y	Y		5322	103309	E017.2	112650	W176.2
5322A	3	0955	1113		X			X	Y	X	X		5323	122041	W009.6	131422	E156.9
5324A	3	1141	1300		Y			Y	Y	Y	X		5324	140813	W036.6	150154	E130.0
5325A	3	1509	1625		Y			Y	X	Y	X		5325	155545	W063.4	164926	E103.0
5326A	3	1654	1814		Y			Y	X	X	X		5326	174317	W090.3	183658	E076.3
5327A	3	1839	1959		Y			Y	Y	X	X		5327	193048	W117.2	202429	E049.4
5328A	3	2027	2144		Y			X	Y	Y	Y		5328	211820	W144.1	221201	E022.5
5329A	3	2215	2332		Y			Y	Y	X	X		5329	230552	W171.0	235933	W004.4

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
14 JULY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	ERB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5329O	3	2329	0033					Y	Y	Y	X		5330	005324	E162.2	014705	W031.7
5330O	3	0047	0151					Y	X	X	X		5331	024055	E135.3	033437	W058.1
5332R	3	0404	0519		Y			Y	X	Y	X		5332	042827	E108.4	052208	W085.0
5333R	3	0549	0659		X			X	Y	Y	X		5333	061559	E081.5	070940	W111.9
5334A	3	0728	0840		Y			X	Y	X	X		5334	080331	E054.6	085712	W138.8
5335A	3	0913	1027		Y			Y	Y	X	Y		5335	095102	E027.8	104444	W165.7
5336A	3	1100	1217		Y			X	Y	Y	X		5336	113834	E000.8	123215	E167.4
5337A	3	1245	1401		Y			X	X	Y	X		5337	132606	W026.0	141947	E140.6
5338A	3	1429	1545		Y			Y	Y	Y	Y		5338	151338	W052.9	160719	E113.7
5339A	3	1613	1730		X			X	Y	Y	Y		5339	170110	W079.8	175451	E086.9
5340A	3	1759	1915		Y			Y	Y	Y	X		5340	184842	W106.7	194223	E059.9
5341A	3	1947	2103		Y			X	Y	X	X		5341	203613	W133.6	212954	E033.0
5342A	3	2133	2249		Y			X	Y	X	Y		5342	222345	W160.4	231726	E006.2

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
15 JULY 1976

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	T D P E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5343O	3	2341	0044					X	X	X	X			5343	001117	010458	W020.7
5344O	3	0150	0252					X	X	X	X			5344	015849	025230	W047.6
5345R	3	0336	0438		X			X	X	X	X			5345	034620	044002	W074.5
5346R	3	0506	0625		X			X	X	X	X			5346	053352	062733	W101.4
5347A	3	0647	0801		X			X	X	X	X			5347	072124	081505	W128.3
5348A	3	0833	0950		X			X	X	X	X			5348	090856	100237	W155.2
5349A	3	1024	1137		X			X	X	X	X			5349	105627	115009	E178.0
5350A	3	1205	1322		X			X	X	X	X			5350	124359	133741	E151.1
5351A	3	1348	1453		X			X	X	X	X			5351	143131	152512	E124.2
5352A	3	1532	1637		X			X	X	X	X			5352	161903	171244	E097.7
5353A	3	1716	1836		X			X	X	X	X			5353	180635	190016	E070.4
5354A	3	1903	2021		X			X	X	X	X			5354	195406	204749	E043.6
5355A	3	2050	2207		X			X	X	X	X			5355	214138	223519	E016.7
5356A	3	2241	2353		X			X	X	X	X			5356	232910	002251	W010.2

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
16 JULY 1976

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	T D P E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5359R	3	0438	0539		X			X	X	X	X		5357	011642	E156.3	021023	W037.1
5360R	3	0611	0727		X			X	X	X	X		5358	030413	E129.5	035755	W064.0
5361A	3	0750	0908		X			X	X	X	X		5359	045145	E102.5	054527	W090.9
5362A	3	0936	1051		X			X	X	X	X		5360	063917	E075.7	073258	W117.8
5363A	3	1122	1241		X			X	X	X	X		5361	082649	E048.8	092030	W144.7
5364A	3	1307	1419		X			X	X	X	X		5362	101421	E021.9	110802	W171.5
5365A	3	1451	1610		X			X	X	X	X		5363	120152	W005.0	125539	E161.6
5367A	3	1623	1727		X			X	X	X	X		5364	134924	W031.9	144306	E134.7
5368A	3	2009	2123		X			X	X	X	X		5365	153656	W058.7	163037	E107.9
5369A	3	2156	2312		X			X	X	X	X		5366	172428	W085.6	181809	E081.0
													5367	191159	W112.5	200541	E054.1
													5368	205931	W139.4	215313	E027.2
													5369	224703	W166.3	234046	E000.3

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TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
17 JULY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	ERB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
53690	3	2310	0014					X	X	X	X		5370	003435	E166.9	012816	W026.6
53700	3	0027	0131					X	X	X	X		5371	022207	E140.0	031548	W053.5
5372R	3	0345	0501		X			X	X	X	X		5372	040938	E113.1	050320	W080.4
5373R	3	0529	0647		X			X	X	X	X		5373	055710	E086.2	065052	W107.3
5374A	3	0709	0826		X			X	X	X	X		5374	074442	E059.3	083824	W134.1
5375A	3	0855	1013		X			X	X	X	X		5375	093214	E032.4	102555	W161.0
5376A	3	1041	1200		X			X	X	X	X		5376	111945	E005.5	121327	E172.1
5377A	3	1227	1333		X			X	X	X	X		5377	130717	W021.3	140059	E145.3
5378A	3	1411	1529		X			X	X	X	X		5378	145449	W048.2	154831	E118.4
5379A	3	1554	1712		X			X	X	X	X		5379	164221	W075.1	173602	E091.5
5380A	3	1739	1854		X			X	X	X	X		5380	182953	W102.0	192334	E064.6
5381A	3	1927	2039		X			X	X	X	X		5381	201724	W128.9	211106	E037.7
5382A	3	2113	2231		X			X	X	X	X		5382	220456	W155.7	225838	E010.8
5383A	3	2305	0016		X			X	X	X	X		5383	235228	E177.4	004610	W016.1

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
18 JULY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	ERB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
53840	3	0014	0119					X	X	X	X		5384	014000	E150.5	023341	W043.0
5385R	3	0316	0419		X			X	X	X	X		5385	032731	E123.6	042113	W069.8
5386R	3	0446	0605		X			X	X	X	X		5386	051503	E096.7	060845	W096.7
5387A	3	0629	0741		X			X	X	X	X		5387	070235	E069.8	075617	W123.6
5388A	3	0813	0922		X			X	X	X	X		5388	085007	E043.0	094349	W150.4
5389A	3	0959	1110		X			X	X	X	X		5389	103739	E016.1	113120	W177.4
5390A	3	1145	1255		X			X	X	X	X		5390	122510	W010.8	131852	E155.5
5391A	3	1330	1442		X			X	X	X	X		5391	141242	W037.7	150624	E128.9
5392A	3	1514	1626		X			X	X	X	X		5392	160014	W064.6	165356	E102.0
5393A	3	1658	1817		X			X	X	X	X		5393	174746	W091.5	184128	E075.1
5394A	3	1844	2002		X			X	X	X	X		5394	193518	W118.3	202859	E048.3
5395A	3	2031	2149		X			X	X	X	X		5395	212249	W145.2	221631	E021.3
5396A	3	2221	2334		X			X	X	X	X		5396	231021	W172.1	000403	W005.5

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
19 JULY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRF	SCAM	ESMR	ERB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5396O	3	2333	0035					X	X	X	X		5397	005754	E161.0	015135	W032.4
5397O	3	0050	0153					X	X	X	X		5398	024525	E134.1	033906	W059.3
5399R	3	0407	0524		X			X	X	X	X		5399	043256	E107.2	052638	W086.2
5400R	3	0551	0709		X			X	X	X	X		5400	062028	E080.4	071410	W113.1
5401A	3	0732	0849		X			X	X	X	X		5401	080800	E053.5	090142	W140.0
5402A	3	0918	1037		X			X	X	X	X		5402	095532	E026.6	104914	W166.8
5403A	3	1104	1224		X			X	X	X	X		5403	114304	W000.3	123645	E166.7
5404A	3	1249	1408		X			X	X	X	X		5404	133035	W027.2	142417	E139.4
5405A	3	1433	1552		X			X	X	X	X		5405	151807	W054.0	161149	E112.5
5406A	3	1617	1736		X			X	X	X	X		5406	170539	W080.9	175921	E085.6
5407A	3	1810	1922		X			X	X	X	X		5407	185311	W107.8	194653	E058.7
5408A	3	1950	2107		X			X	X	X	X		5408	204042	W134.7	213424	E031.9
5409A	3	2137	2254		X			X	X	X	X		5409	222814	W161.6	232156	E005.0

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
20 JULY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRF	SCAM	ESMR	ERB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5410O	3	2344	0049					X	X	X	X		5410	001546	E171.5	010928	W021.8
5411O	3	0154	0258					X	X	X	X		5411	020318	E144.7	025700	W048.9
5412R	3	0340	0443		X			X	X	X	X		5412	035050	E117.8	044431	W075.7
5413R	3	0511	0628		X			X	X	X	X		5413	053821	E090.9	063203	W102.5
5414A	3	0651	0755		X			X	X	X	X		5414	072553	E064.0	081935	W129.4
5415A	3	0837	0952		X			X	X	X	X		5415	091325	E037.1	100707	W156.3
5416A	3	1032	1142		X			X	X	X	X		5416	110057	E010.2	115439	E176.8
5417A	3	1209	1328		X			X	X	X	X		5417	124828	W016.7	134210	E149.9
5418A	3	1354	1511		X			X	X	X	X		5418	143600	W043.6	152942	E123.0
5419A	3	1537	1654		X			X	X	X	X		5419	162331	W070.4	171714	E096.2
5420A	3	1722	1840		X			X	X	X	X		5420	181104	W097.3	190446	E069.7
5421A	3	1908	2027		X			X	X	X	X		5421	195836	W124.2	205218	E042.4
5422A	3	2055	2213		X			X	X	X	X		5422	214607	W151.0	223949	E015.5
													5423	233339	W177.9	002721	W011.4

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
21 JULY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	FRB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5423O	3	2301	0006					Y	Y	Y	X		5424	012111	E155.2	021453	W038.3
5424O	3	0111	0215					Y	Y	Y	X		5425	030843	E128.3	040225	W065.1
5425R	3	0258	0359		X			Y	Y	Y	X		5426	045614	E101.4	054597	W092.0
5426R	3	0427	0549		X			Y	Y	Y	X		5427	064346	E074.5	073728	W118.9
5427A	3	0609	0722		X			Y	Y	Y	X		5428	083118	E047.7	092500	W145.8
5428A	3	0754	0913		X			X	Y	X	X		5429	101850	E020.8	111232	W172.7
5429A	3	0941	1100		Y			Y	Y	Y	X		5430	120622	W006.1	130004	E160.4
5430A	3	1127	1247		Y			X	Y	Y	X		5431	135353	W033.0	144736	E133.6
5431A	3	1311	1431		X			X	Y	X	X		5432	154125	W059.9	163707	E106.7
5432A	3	1457	1614		X			X	Y	Y	X		5433	172857	W086.8	182239	E079.8
5433A	3	1640	1759		X			X	Y	Y	X		5434	191629	W113.6	201011	E052.9
5434A	3	1822	1945		Y			X	Y	X	Y		5435	210400	W140.5	215743	E026.0
5435A	3	2010	2131		Y			Y	X	Y	X		5436	225132	W167.4	234515	W000.8
5436A	3	2157	2317		Y			Y	Y	Y	X						

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
22 JULY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	FRB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5436O	3	2314	0018					X	Y	Y	X		5437	003904	E165.7	013246	W027.7
5437O	3	0031	0135					Y	Y	X	X		5438	022636	E138.8	032018	W054.6
5438O	3	0218	0322					X	Y	X	X		5439	041408	E111.9	050750	W081.5
5439R	3	0402	0506		X			X	Y	Y	X		5440	060139	E085.1	065522	W108.4
5440R	3	0530	0651		Y			Y	X	Y	X		5441	074911	E058.2	084254	W135.3
5441A	3	0710	0824		Y			X	Y	Y	X		5442	093643	E031.3	103025	W162.1
5442A	3	0857	1016		Y			Y	Y	Y	X		5443	112415	E004.4	121757	E171.0
5443A	3	1042	1205		X			X	Y	Y	Y		5444	131146	W022.5	140529	E144.1
5444A	3	1229	1350		X			X	Y	Y	X		5445	145918	W049.4	155301	E117.2
5445A	3	1413	1533		Y			Y	X	X	X		5446	164650	W076.3	174032	E090.3
5446A	3	1557	1717		X			Y	Y	Y	Y		5447	183422	W103.1	192804	E063.4
5448A	3	1928	2050		Y			X	Y	X	X		5448	202154	W130.0	211536	E036.6
5449A	3	2115	2235		X			Y	Y	X	X		5449	220925	W156.9	230308	E009.7
5450A	3	2307	0021		X			X	Y	Y	X		5450	235657	E176.2	005040	W017.2

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
23 JULY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	FRB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5452R	3	0304	0423		X			X	X	X	X		5451	014429	E149.3	023811	W044.1
5453R	3	0450	0611		X			X	X	X	X		5452	033201	E122.4	042543	W071.0
5454A	3	0629	0734		X			X	X	X	X		5453	051933	E095.6	061315	W097.8
5455A	3	0814	0936		X			X	X	X	X		5454	070704	E068.7	080047	W124.7
5456A	3	1001	1123		X			X	X	X	X		5455	085436	E041.8	094819	W151.6
5457A	3	1147	1309		X			X	X	X	X		5456	104208	E014.9	113550	W178.5
5458A	3	1331	1452		X			X	X	X	X		5457	122940	W012.0	132322	E154.6
5459A	B	1515	1636		X			X	X	X	X		5458	141711	W038.9	151054	E127.7
5460A	B	1659	1819		X			X	X	X	X		5459	160443	W065.7	165826	E100.9
5461A	3	1845	2008		X			X	X	X	X		5460	175215	W092.6	184557	E074.0
5462A	3	2033	2138		X			X	X	X	X		5461	193947	W119.5	203329	E047.1
5463A	B	2222	2340		X			X	X	X	X		5462	212719	W146.4	222101	E020.2
													5463	231450	W173.3	000833	W006.7

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
24 JULY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	FRB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
54630	3	2337	0039					X	X	X	X		5464	010222	E159.9	015605	W033.6
54640	3	0054	0159					X	X	X	X		5465	024954	E133.0	034336	W060.4
5466R	3	0406	0529		X			X	X	X	X		5466	043726	E106.1	053108	W087.3
5467R	B	0553	0713		X			X	X	X	X		5467	062457	E079.2	071840	W114.2
5468A	3	0733	0853		X			X	X	X	X		5468	081229	E052.4	090612	W141.1
5469A	3	0919	1041		X			X	X	X	X		5469	100001	E025.4	105344	W168.0
5470A	3	1105	1228		X			X	X	X	X		5470	114733	W001.4	124115	E165.1
5471A	B	1251	1412		X			X	X	X	X		5471	133505	W028.3	142847	E138.3
5472A	3	1435	1554		X			X	X	X	X		5472	152236	W055.2	161619	E111.4
5473A	3	1618	1741		X			X	X	X	X		5473	171008	W082.1	180351	E084.5
5475A	B	1951	2113		X			X	X	X	X		5474	185740	W109.0	195123	E057.6
5476A	3	2138	2258		X			X	X	X	X		5475	204512	W135.9	213854	E030.7
													5476	223243	W162.7	232626	E003.9

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
25 JULY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	FPR	PMR	TWIRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
54770	B	2349	0053					X	X	X	X		5477	002015	E170.4	011358	W023.0
54780	3	0158	0302					X	X	X	X		5478	020747	E143.5	030130	W049.9
5479R	3	0345	0447		X			X	X	X	X		5479	035519	E116.6	044902	W076.8
5480R	3	0511	0634		X			X	X	X	X		5480	054251	E089.7	063633	W103.7
5481A	3	0652	0810		X			X	X	X	X		5481	073022	E062.9	082405	W130.6
5482A	3	0837	0959		X			X	X	X	X		5482	091754	E036.0	101137	W157.4
5483A	3	1024	1145		X			X	X	X	X		5483	110526	E009.1	115909	E175.7
5484A	3	1210	1332		X			X	X	X	X		5484	125258	W017.8	134640	E148.8
5485A	3	1354	1515		X			X	X	X	X		5485	144029	W044.7	153412	E121.9
5486A	3	1537	1659		X			X	X	X	X		5486	162801	W071.6	172144	E095.0
5487A	3	1722	1845		X			X	X	X	X		5487	181533	W098.4	190915	E068.1
5489A	3	1917	2021		X			X	X	X	X		5488	200305	W125.3	205648	E041.3
5490A	3	2246	0003		X			X	X	X	X		5489	215037	W152.2	224419	E014.4
													5490	233808	W179.1	003151	W012.5

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
26 JULY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	FPR	PMR	TWIRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
54900	3	0001	0103					X	X	X	X		5491	012540	E154.0	021923	W039.4
54910	3	0118	0222					X	X	X	X		5492	031312	E127.1	040655	W066.3
5492R	3	0307	0403		X			X	X	X	X		5493	050044	E100.3	055427	W093.2
5493R	3	0429	0552		X			X	X	X	X		5494	064815	E073.4	074158	W120.1
5494A	3	0611	0726		X			X	X	X	X		5495	083547	E046.5	092930	W147.0
5495A	3	0757	0917		X			X	X	X	X		5496	102319	E019.6	111702	W173.8
5496A	3	0942	1104		X			X	X	X	X		5497	121051	W007.3	130434	E159.3
5497A	3	1128	1251		X			X	X	X	X		5498	135823	W034.2	145206	E132.4
5498A	3	1313	1433		X			X	X	X	X		5499	154554	W061.0	163937	E105.6
5500A	3	1641	1804		X			X	X	X	X		5500	173326	W087.9	182709	E078.7
5501A	3	1826	1949		X			X	X	X	X		5501	192058	W114.8	201441	E051.8
5502A	3	2014	2135		X			X	X	X	X		5502	210830	W141.7	220213	E024.9
5503A	3	2202	2322		X			X	X	X	X		5503	225602	W168.6	234944	W002.0

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TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
27 JULY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	ERB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5503O	3	2318	0022					X	Y	Y	X		5504	004330	E164.6	013713	W028.9
5504O	3	0035	0139					X	Y	Y	X		5505	023101	E137.7	032444	W055.7
5506R	3	0349	0510		X			Y	Y	X	X		5506	041833	E110.8	051216	W082.6
5507R	3	0534	0655		X			X	Y	Y	X		5507	060605	E083.9	065948	W109.5
5509A	3	0900	1022		X			Y	Y	X	X		5508	075337	E057.1	084720	W136.4
5510A	3	1046	1209		Y			X	Y	X	Y		5509	094108	E030.2	103451	W163.3
5511A	3	1232	1347		X			Y	Y	X	X		5510	112840	E003.3	122223	E169.8
5512A	3	1417	1537		Y			X	Y	Y	X		5511	131612	W023.6	140955	E143.0
5513A	3	1601	1722		Y			Y	Y	Y	X		5512	150344	W050.5	155727	E116.1
5514A	3	1745	1908		Y			Y	Y	X	X		5513	165116	W077.4	174459	E089.2
5515A	3	1933	2054		X			X	Y	X	X		5514	183847	W104.3	193230	E062.3
5516A	3	2119	2241		X			X	Y	Y	X		5515	202619	W131.2	212002	E035.5
													5516	221351	W158.0	230734	E008.5

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
28 JULY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	ERB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5517O	3	2330	0035					Y	X	Y	X		5517	000126	E175.1	005506	W018.3
5518O	3	0139	0243					X	Y	X	X		5518	014854	E148.2	024237	W045.2
5519R	3	0324	0427		Y			X	Y	X	X		5519	033626	E121.4	043009	W072.1
5520R	3	0453	0615		Y			Y	Y	X	X		5520	052358	E094.5	061741	W099.0
5521A	3	0633	0751		X			X	Y	Y	X		5521	071130	E067.6	080513	W125.9
5522A	3	0819	0939		X			X	Y	Y	X		5522	085901	E040.7	095244	W152.7
5523A	3	1005	1127		X			X	Y	Y	X		5523	104633	E013.8	114016	W179.6
5524A	3	1151	1312		Y			Y	Y	X	X		5524	123405	W013.1	132720	E153.5
5525A	3	1337	1456		Y			X	X	X	X		5525	142137	W040.0	151520	E126.6
5526A	3	1522	1641		Y			Y	Y	X	X		5526	160908	W066.9	170252	E099.7
5527A	3	1705	1826		X			X	Y	Y	X		5527	175640	W093.7	185023	E072.8
5529A	3	1850	1955		X			X	Y	X	X		5528	194412	W120.6	203755	E046.0
5530A	3	2226	2345		X			Y	X	X	X		5529	213144	W147.5	222527	E019.1
													5530	231915	W174.4	001259	W007.8

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
29 JULY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRF	SCAM	ESMR	SEPR	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
55300	3	2341	0045					Y	Y	Y	X		5531	010647	E158.8	020030	W034.7
55310	3	0058	0203					Y	Y	X	X		5532	025419	E131.9	034802	W061.6
5533R	3	0410	0532		Y			Y	Y	Y	Y		5533	044151	E105.0	053534	W088.5
5534R	3	0557	0715		Y			Y	Y	Y	X		5534	062923	E079.1	072306	W115.3
5535A	3	0737	0858		Y			X	Y	X	X		5535	081654	E051.2	091038	W142.2
5536A	3	0923	1046		Y			X	Y	Y	X		5536	100426	E024.3	105809	W169.1
5537A	3	1109	1232		Y			X	Y	Y	X		5537	115158	W002.6	124541	E164.0
5538A	3	1255	1417		Y			X	Y	Y	X		5538	133930	W029.4	143313	E137.1
5539A	3	1439	1600		Y			X	Y	Y	X		5539	152701	W056.3	162045	E110.3
5541A	3	1809	1931		Y			X	Y	X	X		5540	171433	W083.2	180816	E083.4
5542A	3	1957	2117		X			Y	Y	Y	X		5541	190205	W110.1	195548	E056.5
													5542	204937	W137.0	214320	E029.6
													5543	223708	W163.9	233052	E002.7

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
30 JULY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRF	SCAM	ESMR	SEPR	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5546R	3	0330	0451		Y			Y	Y	Y	X		5544	002440	E169.3	011823	W024.2
5547R	3	0517	0637		Y			X	Y	Y	X		5545	021212	E142.4	030555	W051.0
5548A	3	0656	0815		Y			X	Y	Y	X		5546	035944	E115.5	045327	W077.9
5549A	3	0842	1003		Y			Y	Y	X	X		5547	054715	E088.6	064059	W104.8
5550A	3	1029	1151		Y			X	X	Y	X		5548	073447	E061.7	082931	W131.7
5551A	3	1214	1332		Y			X	Y	Y	X		5549	092219	E034.8	101602	W158.6
5552A	3	1358	1519		Y			X	Y	X	X		5550	110951	E008.0	120334	E174.5
5553A	3	1542	1703		Y			X	Y	Y	X		5551	125723	W018.9	135106	E147.7
5554A	3	1726	1849		X			Y	Y	Y	X		5552	144454	W045.8	153838	E120.8
5555A	3	1913	2035		X			Y	Y	X	X		5553	163226	W072.7	172609	E093.9
5557A	3	2251	0007		Y			Y	Y	Y	X		5554	181958	W099.6	191341	E067.0
													5555	200730	W126.4	210113	E040.1
													5556	215501	W153.3	224845	E013.3
													5557	234233	E179.8	003617	W013.6

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TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
31 JULY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	FRB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5557O	3	0005	0109					X	X	X	X		5558	013005	E152.9	022348	W040.5
5558O	3	0125	0229					X	X	X	X		5559	031737	E126.7	041120	W067.4
5559P	3	0306	0408		X			X	X	X	X		5560	050508	E099.1	055852	W094.3
5560R	3	0433	0555		X			X	X	X	X		5561	065240	E072.3	074624	W121.2
5562A	3	0800	0922		X			X	X	X	X		5562	084012	E045.4	093355	W148.0
5563A	3	0946	1109		X			X	X	X	X		5563	102744	E018.5	112127	W175.0
5564A	3	1131	1253		X			X	X	X	X		5564	121515	W008.4	130859	E158.2
5565A	3	1317	1438		X			X	X	X	X		5565	140247	W035.3	145631	E131.3
5566A	3	1501	1622		X			X	X	X	X		5566	155019	W062.2	164402	E104.4
5568A	3	1831	1948		X			X	X	X	X		5567	173751	W089.0	183134	E077.5
													5568	192522	W115.9	201906	E050.7
													5569	211254	W142.8	220638	E023.9
													5570	230026	W169.7	235410	W003.1

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
01 AUGUST 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	FRB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5570O	B	2227	2331					X	X	X	X		5571	004758	E163.4	014141	W030.0
5571O	3	0039	0144					X	X	X	X		5572	023530	E136.6	032913	W056.9
5573R	3	0352	0514		X			X	X	X	X		5573	042301	E109.7	051845	W083.7
5574R	3	0539	0659		X			X	X	X	X		5574	061033	E082.8	070417	W110.6
5576A	3	0855	1026		X			X	X	X	X		5575	075805	E055.9	085148	W137.5
5577A	3	1051	1214		X			X	X	X	X		5576	094537	E029.0	103920	W164.4
5578A	3	1237	1359		X			X	X	X	X		5577	113308	E002.1	122652	E168.7
5579A	3	1421	1542		X			X	X	X	X		5578	132040	W024.7	141424	E141.8
5580R	3	1553	1714		X			X	X	X	X		5579	150812	W051.6	160156	E115.0
													5580	165544	W078.5	174927	E088.1
													5581	184315	W105.4	193659	E061.2
													5582	203047	W132.3	212431	E034.3
													5583	221819	W159.2	231203	E007.4

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
02 AUGUST 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	FRB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5584O	3	2333	0038					X	X	X	X		5584	000551	E174.0	005934	W019.5
5585O	3	0145	0249					X	X	X	X		5585	015322	E147.1	024706	W046.3
5586R	3	0329	0432		X			X	X	X	X		5586	034054	E120.2	043437	W073.2
5587R	3	0457	0619		X			X	X	X	X		5587	052826	E093.3	062210	W100.1
5589A	3	0823	0945		X			X	X	X	X		5588	071558	E066.4	080941	W127.0
5590A	3	1009	1133		X			X	X	X	X		5589	090330	E039.6	095713	W153.9
5591A	3	1155	1317		X			X	X	X	X		5590	105101	E012.7	114445	E179.3
5592A	3	1340	1502		X			X	X	X	X		5591	123833	W014.2	133217	E152.4
5593A	3	1525	1645		X			X	X	X	X		5592	142605	W041.1	151949	E125.5
5594A	3	1708	1831		X			X	X	X	X		5593	161337	W068.0	170720	E098.6
5595A	3	1854	2017		X			X	X	X	X		5594	180108	W094.9	185452	E071.7
5596A	3	2042	2202		X			X	X	X	X		5595	194840	W121.7	204224	E044.8
5597A	3	2231	2348		X			X	X	X	X		5596	213612	W148.6	222056	E018.0
													5597	232344	W175.5	001727	W009.0

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
03 AUGUST 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	FRB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5597O	3	2346	0100					X	X	X	X		5598	011118	E157.6	020501	W035.9
5598O	3	0105	0207					X	X	X	X		5599	025849	E130.7	035233	W062.8
5600R	3	0415	0537		X			X	X	X	X		5600	044621	E103.8	054005	W089.6
5601R	3	0602	0721		X			X	X	X	X		5601	063353	E076.9	072737	W116.5
5602A	3	0742	0903		X			X	X	X	X		5602	082125	E050.0	091509	W143.4
5603A	3	0929	1051		X			X	X	X	X		5603	100857	E023.1	110240	W170.3
5604A	3	1114	1237		X			X	X	X	X		5604	115628	W003.7	125012	E162.8
5605A	3	1259	1421		X			X	X	X	X		5605	134400	W030.6	143744	E135.9
5606A	3	1443	1558		X			X	X	X	X		5606	153132	W057.5	162516	E109.1
5607A	3	1627	1749		X			X	X	X	X		5607	171904	W084.4	181247	E082.2
5608A	3	1813	1935		X			X	X	X	X		5608	190635	W111.3	200019	E055.7
5609A	3	2001	2121		X			X	X	X	X		5609	205407	W138.2	214751	E028.4
5610A	3	2147	2307		X			X	X	X	X		5610	224139	W165.0	233523	E001.5

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TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
04 AUGUST 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	EPRB	PMP	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5611O	3	2355	0059					X	X	X	X		5611	002911	E168.1	012255	W025.4
5612O	3	0208	0311					X	X	X	X		5612	021642	E141.2	031026	W052.2
5613R	3	0351	0456		X			X	X	X	X		5613	040414	E114.3	045758	W079.1
5614R	3	0521	0642		X			X	X	X	X		5614	055146	E087.4	064530	W106.0
5615A	3	0701	0820		X			X	X	X	X		5615	073918	E060.6	083302	W132.9
5616A	3	0846	1008		X			X	X	X	X		5616	092650	E033.7	102033	W159.8
5617A	3	1033	1155		X			X	X	X	X		5617	111421	E006.8	120805	E173.4
5618A	3	1218	1341		X			X	X	X	X		5618	130153	W020.1	135537	E146.5
5619A	3	1403	1524		X			X	X	X	X		5619	144925	W047.0	154309	E119.6
5620A	3	1546	1707		X			X	X	X	X		5620	163657	W073.9	173041	E092.7
5621A	3	1721	1854		X			X	X	X	X		5621	182428	W100.8	191812	E065.8
5622A	3	1918	2039		X			X	X	X	X		5622	201200	W127.6	210544	E038.9
5623A	3	2105	2226		X			X	X	X	X		5623	215932	W154.5	225316	E012.1
5624A	3	2256	0011		X			X	X	X	X		5624	234704	E178.6	004048	W014.8

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
05 AUGUST 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	EPRB	PMP	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5624O	3	0009	0113					X	X	X	X		5625	013436	E151.7	022819	W041.7
5625O	3	0126	0230					X	X	X	X		5626	032207	E124.8	041551	W068.6
5626R	3	0315	0413		X			X	X	X	X		5627	050939	E098.0	060323	W095.5
5627R	3	0438	0601		X			X	X	X	X		5628	065711	E071.1	075055	W122.4
5628R	3	0629	0742		X			X	X	X	X		5629	084443	E044.2	093827	W149.2
5629A	3	0805	0926		X			X	X	X	X		5630	103214	E017.3	112558	W176.1
5630A	3	0951	1114		X			X	X	X	X		5631	121946	W009.6	131330	E157.0
5631A	3	1137	1300		X			X	X	X	X		5632	140718	W036.5	150102	E130.1
5632A	3	1322	1443		X			X	X	X	X		5633	155450	W063.3	164834	E103.2
5633A	3	1505	1626		X			X	X	X	X		5634	174222	W090.2	183605	E076.3
5634A	3	1650	1811		X			X	X	X	X		5635	191953	W117.1	202337	E049.5
5635A	3	1835	1958		X			X	X	X	X		5636	211725	W144.0	221109	E022.6
5636A	3	2023	2144		X			X	X	X	X		5637	230457	W170.9	235841	W004.3
5637A	3	2211	2330		X			X	X	X	X						

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
06 AUGUST 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	ERB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5640R	3	0357	0519		X			X	X	X	X		5638	005229	E162.3	014613	W031.2
5641R	3	0543	0704		X			X	X	X	X		5639	024000	E135.4	033344	W058.1
5642A	3	0723	0844		X			X	X	X	X		5640	042732	E108.5	052115	W085.0
5643A	3	0909	1030		X			X	X	X	X		5641	061504	E081.6	070848	W111.8
5644A	3	1055	1218		X			X	X	X	X		5642	080236	E054.7	085620	W138.7
5645A	3	1241	1402		X			X	X	X	X		5643	095007	E027.8	104352	W165.6
5646A	3	1425	1546		X			X	X	X	X		5644	113739	E001.0	123123	E167.5
5647A	3	1609	1731		X			X	X	X	X		5645	132511	W025.9	141855	E140.6
5648A	3	1754	1916		X			X	X	X	X		5646	151243	W052.8	160627	E113.8
5649A	3	1916	1942		X			X	X	X	X		5647	170015	W079.7	175359	E086.9
5650A	3	2129	2248		X			X	X	X	X		5648	184746	W106.6	194130	E060.0
													5649	203518	W133.5	212902	E033.1
													5650	222250	W160.4	231634	E006.2

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
07 AUGUST 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	ERB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
56100	3	2337	0041					X	X	X	X		5651	001022	E172.8	010406	W020.7
56520	3	0149	0252					X	X	X	X		5652	015753	E145.9	025138	W047.6
5653R	3	0332	0437		X			X	X	X	X		5653	034525	E119.0	043909	W074.4
5654R	3	0501	0624		X			X	X	X	X		5654	053257	E092.1	062641	W101.3
5656A	3	0829	0949		X			X	X	X	X		5655	072029	E065.2	081413	W128.2
5657A	3	1014	1136		X			X	X	X	X		5656	090800	E038.4	100145	W155.1
5658A	3	1200	1322		X			X	X	X	X		5657	105532	E011.5	114916	E178.0
5659A	3	1345	1506		X			X	X	X	X		5658	124304	W015.4	133648	E151.2
5660R	3	1514	1636		X			X	X	X	X		5659	143036	W042.3	152420	E124.3
5661A	3	1713	1836		X			X	X	X	X		5660	161808	W069.2	171152	E097.4
5662A	3	1859	2022		X			X	X	X	X		5661	180539	W096.1	185924	E070.5
5663A	3	2047	2207		X			X	X	X	X		5662	195311	W122.9	204655	E043.6
56640	3	2257	0000					X	X	X	X		5663	214043	W149.8	223427	E016.7
													5664	232815	W176.7	002159	W010.1

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
08 AUGUST 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	FSMR	ERRB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5665O	3	0107	0211					X	X	X	X		5665	011546	E156.4	020931	W037.0
5667R	3	0252	0343		X			X	X	X	X		5666	030318	E129.5	035702	W063.9
5668R	3	0607	0726		X			X	X	X	X		5667	045050	E102.6	054434	W090.8
5669A	3	0746	0907		X			X	X	X	X		5668	063822	E075.8	073206	W117.7
5670A	3	0933	1055		X			X	X	X	X		5669	082554	E048.9	091938	W144.6
5671A	3	1118	1241		X			X	X	X	X		5670	101325	E022.0	110710	W171.7
5672A	3	1303	1425		X			X	X	X	X		5671	120057	W004.9	125441	E161.7
5673A	3	1447	1609		X			X	X	X	X		5672	134829	W031.8	144213	E134.8
5674A	3	1631	1754		X			X	X	X	X		5673	153601	W058.7	162945	E107.9
5675A	3	1817	1940		X			X	X	X	X		5674	172332	W085.5	181717	E081.0
5676A	3	2005	2126		X			X	X	X	X		5675	191104	W112.4	200448	E054.2
5677A	3	2153	2312		X			X	X	X	X		5676	205836	W139.3	215220	E027.3
													5677	224608	W166.2	233952	E000.4

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
09 AUGUST 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	FSMR	ERRB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5677O	3	2310	0011					X	X	X	X		5678	003339	E166.9	012724	W026.5
5678O	3	0026	0129					X	X	X	X		5679	022111	E140.1	031456	W053.4
5679O	3	0212	0315					X	X	X	X		5680	040843	E113.2	050227	W080.3
5680R	3	0358	0500		X			X	X	X	X		5681	055615	E086.3	064959	W107.2
5681R	3	0525	0646		X			X	X	X	X		5682	074347	E059.4	083731	W134.0
5682A	3	0655	0820		X			X	X	X	X		5683	093118	E032.5	102503	W160.9
5683A	3	0851	1011		X			X	X	X	X		5684	111850	E005.6	121234	E172.2
5684A	3	1037	1200		X			X	X	X	X		5685	130622	W021.2	140006	E145.3
5685A	3	1223	1345		X			X	X	X	X		5686	145354	W048.1	154738	E118.4
5686A	3	1407	1528		X			X	X	X	X		5687	164125	W075.0	173510	E091.6
5687A	3	1551	1712		X			X	X	X	X		5688	182857	W101.9	192242	E064.7
5688A	3	1735	1858		X			X	X	X	X		5689	201629	W128.8	211013	E037.8
5690A	3	2109	2230		X			X	X	X	X		5690	220401	W155.7	225745	E010.9
													5691	235133	E177.5	004517	W016.0

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
10 AUGUST 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMP	ERB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
56920	3	0130	0234					Y	Y	X	X		5692	013905	E150.6	023250	W042.9
5701A	3	1710	1817		Y			Y	Y	Y	X		5693	032637	E123.7	042021	W069.7
5703A	3	2029	2149		Y			X	Y	Y	X		5694	051409	E096.8	060753	W096.6
													5695	070141	E069.9	075525	W123.5
													5696	084912	E043.1	094257	W150.4
													5697	103644	E016.2	113029	W177.3
													5698	122416	W010.7	131809	E155.9
													5699	141148	W037.6	150532	E129.0
													5700	155920	W064.5	165304	E102.1
													5701	174651	W091.4	184036	E075.2
													5702	193423	W118.3	202807	E048.3
													5703	212155	W145.1	221539	E021.4
													5704	230927	W172.0	000311	W005.5

* DUE TO COMMAND PROBLEMS ONLY THREE DATA ORBITS ARE AVAILABLE FOR THIS DATE

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
11 AUGUST 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	ERB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
57040	3	2237	2340					X	Y	Y	X		5705	005659	E161.1	015043	W032.3
57050	3	0049	0153					X	Y	Y	X		5706	024430	E134.2	033815	W059.2
5707R	3	0401	0524		Y			Y	Y	Y	X		5707	043202	E107.3	052546	W086.1
5708R	3	0547	0707		Y			Y	Y	Y	X		5708	061934	E080.5	071318	W113.0
5710A	3	0914	1035		X			X	Y	X	Y		5709	080706	E053.6	090050	W139.9
5711A	3	1101	1222		Y			Y	Y	Y	X		5710	095437	E026.7	104822	W166.8
5712A	3	1245	1406		Y			X	Y	X	X		5711	114209	W000.2	123554	E166.4
5713A	3	1427	1550		Y			X	Y	Y	X		5712	132941	W027.1	142325	E139.5
5714A	3	1613	1734		Y			X	Y	X	X		5713	151713	W054.0	161057	E112.6
5715A	3	1758	1922		X			X	Y	Y	X		5714	170444	W080.8	175829	E085.7
													5715	185216	W107.7	194601	E058.8
													5716	203948	W134.6	213332	E032.0
													5717	222720	W161.5	232104	E005.1

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
12 AUGUST 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	FRB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5718O	3	2341	0044					X	X	X	X		5718	001452	E171.6	010836	W021.8
5719O	3	0152	0255					X	X	X	X		5719	020223	E144.7	025608	W048.7
5720R	3	0339	0442		X			X	X	X	X		5720	034955	E117.9	044340	W075.6
5721R	3	0506	0628		X			X	X	X	X		5721	053727	E091.0	063111	W102.5
5722A	3	0647	0804		X			X	X	X	X		5722	072459	E064.1	081843	W129.3
5723A	3	0833	0954		X			X	X	X	X		5723	091230	E037.2	100615	W156.2
5724A	3	1018	1141		X			X	X	X	X		5724	110002	E010.3	115347	E176.9
5725A	3	1205	1326		X			X	X	X	X		5725	124734	W016.6	134119	E150.0
5726A	3	1349	1510		X			X	X	X	X		5726	143506	W043.4	152850	E123.1
5727A	3	1533	1654		X			X	X	X	X		5727	162238	W070.3	171622	E096.3
5728A	3	1717	1840		X			X	X	X	X		5728	181009	W097.2	190354	E069.4
5729A	3	1909	2026		X			X	X	X	X		5729	195741	W124.1	205126	E042.5
5730A	3	2050	2211		X			X	X	X	X		5730	214513	W151.0	223857	E015.6
													5731	233245	W177.9	002629	W011.3

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
13 AUGUST 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	FRB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5733R	3	0241	0358		X			X	X	X	X		5732	012016	E155.3	021401	W038.2
5734R	3	0425	0547		X			X	X	X	X		5733	030748	E128.4	040133	W065.1
5735A	3	0605	0721		X			X	X	X	X		5734	045520	E101.5	054905	W091.9
5736A	3	0751	0911		X			X	X	X	X		5735	064252	E074.6	073636	W118.8
5737A	3	0937	1059		X			X	X	X	X		5736	083024	E047.7	092408	W145.7
5738A	3	1123	1245		X			X	X	X	X		5737	101755	E020.9	111140	W172.6
5739A	3	1309	1429		X			X	X	X	X		5738	120527	W006.0	125912	E160.5
5740A	3	1453	1612		X			X	X	X	X		5739	135259	W032.9	144643	E133.7
5741A	3	1637	1758		X			X	X	X	X		5740	154031	W059.8	163415	E106.8
5742A	3	1829	1944		X			X	X	X	X		5741	172802	W086.7	182147	E079.9
5743A	3	2009	2130		X			X	X	X	X		5742	191534	W113.6	200919	E053.0
5744A	3	2157	2317		X			X	X	X	X		5743	210306	W140.4	215651	E026.1
													5744	225038	W167.3	234422	W000.9

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
14 AUGUST 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	ERB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5744O	3	2311	0015					X	Y	X	X		5745	003810	E165.8	013154	W027.6
5745O	3	0031	0134					X	Y	X	X		5746	022541	E138.9	031926	W054.5
5746O	3	0217	0320					X	Y	X	X		5747	041313	E112.0	050658	W081.4
5747R	3	0401	0505		Y			X	Y	X	X		5748	060045	E085.1	065429	W108.3
5748R	3	0529	0651		Y			X	Y	X	X		5749	074817	E058.3	084201	W135.2
5749A	3	0709	0829		Y			X	Y	X	X		5750	093548	E031.4	102933	W162.1
5750A	3	0855	1016		Y			X	Y	X	X		5751	112320	E004.5	121705	E171.1
5751A	3	1042	1204		Y			X	Y	X	X		5752	131052	W022.4	140437	E144.2
5752A	3	1227	1349		Y			Y	Y	X	X		5753	145824	W049.3	155208	E117.3
5753A	3	1413	1530		Y			X	X	Y	Y		5754	164556	W076.2	173940	E090.4
5754A	3	1555	1717		Y			X	Y	X	X		5755	183327	W103.0	192712	E063.5
5755A	3	1742	1903		Y			Y	X	X	X		5756	202059	W129.9	211444	E036.7
5756A	3	1927	2049		Y			X	Y	X	X		5757	220831	W156.8	230216	E009.8
5758A	3	2306	0019		Y			Y	Y	X	X		5758	235603	E176.3	004947	W017.1

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
15 AUGUST 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	ERB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5758O	3	0018	0120					Y	Y	X	X		5759	014334	E149.4	023719	W044.0
5759O	3	0136	0239					X	Y	X	X		5760	033106	E122.6	042450	W070.9
5760R	3	0321	0423		Y			X	Y	X	Y		5761	051838	E095.7	061222	W097.8
5761R	3	0447	0610		Y			X	Y	X	X		5762	070609	E068.8	075954	W124.7
5762A	3	0629	0746		Y			Y	Y	Y	X		5763	085341	E041.9	094726	W151.5
5763A	3	0813	0932		Y			Y	Y	X	Y		5764	104113	E015.0	113459	W178.4
5764A	3	1001	1120		Y			X	Y	X	X		5765	122845	W011.9	132229	E154.7
5765A	3	1146	1305		Y			X	X	X	X		5766	141617	W038.8	151001	E127.8
5766A	3	1330	1450		Y			Y	Y	X	X		5767	160348	W065.6	165733	E100.9
5767A	3	1514	1633		Y			X	X	X	X		5768	175120	W092.5	184505	E074.1
5768A	3	1658	1817		Y			X	Y	X	X		5769	193852	W119.4	203236	E047.2
5770A	3	2033	2152		Y			X	Y	X	X		5770	212624	W146.3	222008	E020.3
5771A	3	2225	2338		Y			X	X	X	X		5771	231355	W173.2	000740	W006.6

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
16 AUGUST 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	ERB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5771O	B	2335	0039					X	X	X	X		5772	010127	E160.0	015512	W033.5
5772O	B	0054	0157					X	X	X	X		5773	024859	E133.1	034244	W060.4
5774P	B	0355	0526		X			X	X	X	X		5774	043631	E106.2	053915	W087.3
5775R	B	0553	0713		X			X	X	X	X		5775	062403	E079.3	071747	W114.1
5776A	B	0733	0853		X			X	X	X	X		5776	081134	E052.4	090519	W141.0
5777A	B	0918	1041		X			X	X	X	X		5777	095906	E025.5	105251	W167.9
5778A	B	1105	1227		X			X	X	X	X		5778	114638	W001.3	124023	E165.2
5779A	B	1250	1412		X			X	X	X	X		5779	133410	W028.2	142754	E138.3
5780A	B	1437	1555		X			X	X	X	X		5780	152141	W055.1	161526	E111.5
5781A	B	1617	1740		X			X	X	X	X		5781	170913	W082.0	180258	E084.6
5783A	B	1951	2112		X			X	X	X	X		5782	185645	W108.9	195030	E057.7
5784A	B	2137	2256		X			X	X	X	X		5783	204417	W135.8	213801	E030.8
													5784	223149	W162.6	232533	E003.9

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
17 AUGUST 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	ERB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5785O	B	2345	0048					X	X	X	X		5785	001920	E170.5	011305	W023.0
5786O	B	0158	0302					X	X	X	X		5786	020652	E143.6	030037	W049.8
5787R	B	0342	0446		X			X	X	X	X		5787	035424	E116.7	044809	W076.7
5788R	B	0510	0633		X			X	X	X	X		5788	054156	E089.8	063540	W103.6
5789A	B	0651	0805		X			X	X	X	X		5789	072927	E063.0	082312	W130.5
5790A	B	0837	0954		X			X	X	X	X		5790	091659	E036.1	101044	W157.4
5791A	B	1023	1140		X			X	X	X	X		5791	110431	E009.2	115816	E175.7
5792A	B	1209	1325		X			X	X	X	X		5792	125203	W017.7	134548	E148.9
5793A	B	1353	1515		X			X	X	X	X		5793	143935	W044.6	153319	E122.0
5794A	B	1537	1652		X			X	X	X	X		5794	162706	W071.5	172051	E095.1
5795A	B	1721	1836		X			X	X	X	X		5795	181438	W098.4	190823	E068.2
5796A	B	1909	2029		X			X	X	X	X		5796	200210	W125.2	205555	E041.3
5798O	B	2245	2350					X	X	X	X		5797	214942	W152.1	224326	E014.5
													5798	233713	W179.0	003058	W012.4

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
18 AUGUST 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	FPB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5799O	3	0117	0221					X	Y	X	X		5799	012445	E154.1	021830	W039.3
5800P	3	0300	0403		Y			X	Y	Y	X		5800	031217	E127.2	040602	W066.3
5801R	3	0429	0551		Y			X	Y	X	X		5801	045949	E100.4	055334	W093.1
5802A	3	0610	0725		Y			X	Y	X	X		5802	064721	E073.5	074105	W120.0
5803A	3	0755	0916		Y			X	Y	Y	X		5803	083452	E046.6	092837	W146.9
5804A	3	0941	1104		Y			X	Y	X	X		5804	102224	E019.7	111609	W173.7
5805A	3	1127	1250		Y			Y	Y	X	X		5805	120956	W007.2	130341	E159.4
5806A	3	1313	1434		Y			X	Y	Y	X		5806	135728	W034.1	145112	E132.5
5807A	3	1457	1617		Y			X	Y	Y	X		5807	154459	W060.9	163844	E105.6
5808A	3	1641	1802		Y			X	Y	X	X		5808	173231	W087.8	182616	E078.7
5810A	3	2014	2134		Y			X	Y	X	X		5809	192003	W114.7	201348	E051.9
5811O	3	2221	2325					X	Y	X	X		5810	210735	W141.6	220120	E025.0
													5811	225507	W168.5	234851	W002.0

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
19 AUGUST 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	ERB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5812O	3	0035	0139					X	Y	X	X		5812	004238	E164.6	013623	W028.8
5814R	3	0349	0509		Y			X	Y	X	X		5813	023010	E137.8	032355	W055.7
5815R	3	0533	0654		Y			X	Y	X	X		5814	041742	E110.9	051127	W082.6
5816A	3	0714	0834		X			X	Y	X	X		5815	060514	E084.0	065859	W109.4
5817A	3	0901	1005		X			X	Y	X	X		5816	075246	E057.1	084630	W136.3
5818A	3	1046	1209		Y			X	Y	X	X		5817	094017	E030.2	103402	W163.2
5819A	3	1231	1354		Y			X	Y	X	X		5818	112749	E003.4	122134	E169.9
5820A	3	1417	1537		Y			X	Y	X	X		5819	131521	W023.5	140906	E143.0
5821A	3	1559	1720		Y			X	Y	X	X		5820	150253	W050.4	155637	E116.1
5822A	3	1745	1907		Y			Y	Y	X	X		5821	165024	W077.3	174409	E089.3
5823A	3	1933	2053		X			Y	Y	Y	Y		5822	183756	W104.2	193141	E062.4
5824A	3	2118	2230		X			Y	Y	X	X		5823	202528	W131.1	211913	E035.5
													5824	221300	W158.0	230645	E008.6

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
20 AUGUST 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	FRB	PMR	TWRL	THIS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5827R	B	0307	0427		X			X	X	X	X		5825	000032	E175.2	005416	W018.3
5828R	3	0451	0615		X			X	X	X	X		5826	014803	E148.3	024148	W045.2
5829A	B	0633	0751		X			X	X	X	X		5827	033535	E121.4	042920	W072.0
5830A	3	0818	0940		X			X	X	X	X		5828	052307	E094.5	061652	W098.9
5831A	3	1005	1127		X			X	X	X	X		5829	071039	E067.6	080424	W125.8
5832A	B	1150	1313		X			X	X	X	X		5830	085810	E040.8	095155	W152.7
5833A	B	1335	1456		X			X	X	X	X		5831	104542	E013.9	113927	W179.6
5834A	3	1518	1640		X			X	X	X	X		5832	123314	W013.0	132659	E153.6
5835A	B	1703	1825		X			X	X	X	X		5833	142046	W039.9	151431	E126.7
5837A	3	2037	2157		X			X	X	X	X		5834	160818	W066.8	170202	E099.8
5838A	B	2225	2343		X			X	X	X	X		5835	175549	W093.7	184934	E072.9
													5836	194321	W120.5	203706	E046.0
													5837	213053	W147.4	222438	E019.1
													5838	231825	W174.3	001210	W007.9

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
21 AUGUST 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	FRB	PMR	TWRL	THIS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
58380	B	2342	0043					X	X	X	X		5839	010556	E158.8	015941	W034.6
58390	B	0058	0202					X	X	X	X		5840	025328	E131.9	034713	W061.5
5841R	3	0410	0532		X			X	X	X	X		5841	044100	E105.0	053445	W088.4
5842R	3	0557	0717		X			X	X	X	X		5842	062832	E078.2	072217	W115.3
5843A	3	0737	0858		X			X	X	X	X		5843	081604	E051.3	090948	W142.2
5844A	3	0923	1046		X			X	X	X	X		5844	100335	E024.4	105720	W169.0
5845A	3	1109	1231		X			X	X	X	X		5845	115107	W002.5	124452	E164.1
5846A	B	1254	1416		X			X	X	X	X		5846	133839	W029.4	143224	E137.2
5847A	B	1438	1559		X			X	X	X	X		5847	152611	W056.3	161956	E110.3
5848A	3	1622	1744		X			X	X	X	X		5848	171343	W083.1	180727	E083.4
5851A	3	2142	2301		X			X	X	X	X		5849	190114	W110.0	195459	E056.5
													5850	204846	W136.9	214231	E029.7
													5851	223618	W163.8	233003	E002.9

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
22 AUGUST 1976

INT ORBIT AND STDN	HDRS	TIME ON HRMN	TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	ERB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5852O	3	2349	0054					X	X	X	X		5852	002348	E169.3	011732	W024.1
5853O	3	0205	0307					X	X	X	X		5853	021119	E142.5	030504	W051.0
5855R	3	0515	0637		X			X	X	X	X		5854	035851	E115.6	045236	W077.9
5856A	3	0655	0815		X			X	X	X	X		5855	054624	E088.7	064008	W104.7
5857A	3	0841	1002		X			X	X	X	X		5856	073355	E061.8	082739	W131.6
5858A	3	1027	1145		X			X	X	X	X		5857	092126	E034.9	101511	W158.5
5859A	3	1213	1334		X			X	X	X	X		5858	110858	E008.1	120243	E174.6
5860A	3	1358	1519		X			X	X	X	X		5859	125630	W018.8	135015	E147.7
5861A	3	1541	1703		X			X	X	X	X		5860	144402	W045.7	153747	E120.9
5862A	3	1717	1834		X			X	X	X	X		5861	163134	W072.6	172518	E094.0
5863R	3	1913	2035		X			X	X	X	X		5862	181905	W099.5	191250	E067.1
5864A	3	2059	2221		X			X	X	X	X		5863	200637	W126.4	210022	E040.2
5865A	3	2250	0006		X			X	X	X	X		5864	215409	W153.3	224754	E013.3
													5865	234141	E179.9	003525	W013.6

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
23 AUGUST 1976

INT ORBIT AND STDN	HDRS	TIME ON HRMN	TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	ERB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5865O	3	0003	0106					X	X	X	X		5866	012912	E153.0	022257	W040.5
5866O	3	0121	0224					X	X	X	X		5867	031644	E126.1	041029	W067.3
5867R	3	0304	0407		X			X	X	X	X		5868	050416	E099.2	055801	W094.2
5868R	3	0433	0556		X			X	X	X	X		5869	065148	E072.3	074533	W121.1
5869A	3	0614	0730		X			X	X	X	X		5870	083920	E045.5	093304	W148.0
5870A	3	0759	0921		X			X	X	X	X		5871	102651	E018.6	112036	W174.9
5871A	3	0946	1108		X			X	X	X	X		5872	121423	W008.3	130808	E158.3
5872A	3	1133	1255		X			X	X	X	X		5873	140155	W035.2	145540	E131.4
5873A	3	1317	1437		X			X	X	X	X		5874	154927	W062.1	164311	E104.5
5874A	3	1501	1605		X			X	X	X	X		5875	173658	W089.0	183043	E077.6
5875A	3	1645	1757		X			X	X	X	X		5876	192430	W115.8	201815	E050.7
5876A	3	1830	1948		X			X	X	X	X		5877	211202	W142.7	220547	E023.8
5877A	3	2018	2137		X			X	X	X	X		5878	225934	W169.6	235319	W003.0
5878A	3	2206	2325		X			X	X	X	X						

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
24 AUGUST 1976

INT ORBIT AND STDN	HDR S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	FERR	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5878O	3	2321	0025					Y	Y	X	X		5879	004705	E163.5	014050	W029.9
5879O	3	0041	0143					X	Y	X	X		5880	023437	E136.6	032822	W056.8
5881R	3	0353	0514		Y			X	Y	Y	X		5881	042209	E109.8	051554	W083.7
5882R	3	0538	0659		X			Y	X	Y	X		5882	060941	E082.9	070326	W110.6
5883A	3	0718	0839		Y			Y	Y	Y	X		5883	075713	E056.0	085057	W137.5
5884A	3	0905	1026		Y			X	Y	X	Y		5884	094444	E029.1	103829	W164.3
5885A	3	1050	1213		Y			X	Y	Y	X		5885	113216	E002.2	122601	E168.8
5886A	3	1237	1358		Y			X	Y	X	X		5886	131948	W024.7	141333	E141.9
5887A	3	1421	1541		X			X	Y	Y	X		5887	150720	W051.6	160104	E115.0
5888A	3	1603	1725		Y			Y	Y	X	X		5888	165451	W078.4	174836	E088.1
5890A	3	1937	2055		Y			X	Y	X	X		5889	184223	W105.3	193608	E061.7
5891A	3	2123	2239		Y			X	Y	X	Y		5890	202955	W132.2	212340	E034.4
													5891	221727	W159.1	231112	E007.5

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
25 AUGUST 1976

INT ORBIT AND STDN	HDR S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	FERR	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5892O	3	2330	0035					X	Y	Y	X		5892	000459	E174.0	005843	W019.4
5893O	3	0143	0247					X	Y	X	X		5893	015230	E147.2	024615	W046.3
5894R	3	0329	0432		Y			X	X	Y	X		5894	034002	E120.3	043347	W073.2
5895R	3	0457	0619		X			X	Y	Y	X		5895	052734	E093.4	062119	W100.1
5896R	3	0637	0755		Y			X	Y	X	X		5896	071506	E066.5	080850	W126.9
5897R	3	0822	0944		Y			X	Y	Y	X		5897	090237	E039.6	095622	W153.8
5898R	3	1009	1132		X			X	Y	X	X		5898	105009	E012.7	114354	E179.3
5899R	3	1154	1317		X			X	Y	X	X		5899	123741	W014.1	133126	E152.4
5900R	3	1339	1501		X			X	Y	X	Y		5900	142513	W041.0	151858	E125.5
5901R	3	1509	1631		Y			X	Y	Y	X		5901	161244	W067.9	170629	E098.7
5902A	3	1707	1830		X			Y	Y	X	X		5902	180016	W094.8	185401	E071.8
5903A	3	1853	2010		Y			X	Y	Y	Y		5903	194748	W121.7	204133	E044.9
5905A	3	2230	2348		Y			X	Y	X	X		5904	213520	W148.6	222905	E018.0
													5905	232251	W175.4	001636	W008.9

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
26 AUGUST 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	ERB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5905O	B	2345	0047					X	Y	X	X		5906	011023	E157.7	020408	W035.8
5906O	B	0105	0209					Y	Y	X	X		5907	025755	E130.8	035140	W062.6
5908R	B	0414	0537		Y			Y	Y	Y	X		5908	044527	E103.9	053912	W089.5
5909R	B	0601	0721		Y			X	Y	Y	X		5909	063259	E077.0	072643	W116.4
5910A	B	0741	0902		Y			X	Y	X	X		5910	082030	E050.2	091415	W143.3
5911A	B	0927	1050		Y			Y	Y	Y	X		5911	100802	E023.3	110147	W170.2
5912A	B	1113	1236		Y			X	Y	Y	X		5912	115534	W003.6	124919	E162.9
5913A	B	1258	1415		Y			X	Y	Y	Y		5913	134306	W030.5	143651	E136.1
5914A	B	1442	1604		Y			X	Y	X	Y		5914	153038	W057.4	162422	E109.2
5915A	B	1626	1749		Y			X	Y	X	X		5915	171809	W084.3	181154	E082.3
5917A	B	1959	2121		Y			X	Y	Y	X		5916	190541	W111.2	195926	E055.4
5918A	B	2146	2307		Y			X	Y	Y	X		5917	205313	W138.0	214658	E028.5
													5918	224045	W164.9	233429	E001.7

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
27 AUGUST 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	ERB	PMP	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5921R	B	0334	0455		Y			X	Y	Y	X		5919	002816	E168.2	012201	W025.2
5922R	B	0519	0641		Y			X	Y	Y	X		5920	021548	E141.3	030933	W052.1
5924A	B	0845	1007		Y			X	Y	X	X		5921	040320	E114.4	045705	W079.0
5925A	B	1031	1154		Y			X	Y	X	X		5922	055052	E087.6	064437	W105.9
5926A	B	1217	1330		Y			Y	Y	X	X		5923	073824	E060.7	083208	W132.8
5927A	B	1402	1522		X			X	Y	X	X		5924	092555	E033.8	101940	W159.7
5928A	B	1545	1707		Y			X	Y	X	X		5925	111327	E006.9	120712	E173.5
5930A	B	1917	2039		Y			X	Y	X	Y		5926	130059	W020.0	135444	E146.6
5931A	B	2105	2225		Y			X	Y	X	X		5927	144831	W046.9	154215	E119.7
5932A	B	2258	0010		Y			X	Y	X	Y		5928	163602	W073.8	172947	E092.8
													5929	182334	W100.6	191719	E065.9
													5930	201106	W127.5	210451	E039.1
													5931	215838	W154.4	225222	E012.2
													5932	234609	E178.7	003954	W014.7

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
28 AUGUST 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	ERB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5932O	3	0007	0111					X	Y	X	X		5933	013341	E151.8	022726	W041.6
5933O	3	0126	0230					X	Y	X	X		5934	032113	E125.0	041458	W068.5
5934R	3	0310	0412		Y			X	Y	X	X		5935	050845	E098.1	060230	W095.4
5935R	3	0437	0600		X			X	Y	Y	X		5936	065617	E071.2	075001	W122.2
5936A	3	0619	0735		X			X	Y	Y	X		5937	084348	E044.3	093733	W149.1
5937A	B	0805	0925		X			X	Y	X	X		5938	103120	E017.4	112505	W176.0
5938A	3	0950	1113		X			X	Y	Y	X		5939	121852	W009.5	131237	E157.1
5939A	3	1137	1258		X			X	Y	X	X		5940	140624	W036.3	150008	E130.2
5940A	B	1325	1442		X			Y	Y	X	X		5941	155355	W063.2	164740	E103.3
5941A	3	1455	1626		Y			X	Y	X	X		5942	174127	W090.1	183512	E076.5
5942A	3	1649	1811		X			X	Y	X	X		5943	192859	W117.0	202244	E049.6
5943A	B	1834	1955		X			Y	X	X	X		5944	211631	W143.9	221016	E022.7
5944A	3	2022	2144		X			X	Y	Y	Y		5945	230403	W170.8	235747	W004.2

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
29 AUGUST 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	ERB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5948R	3	0357	0518		X			X	Y	X	X		5946	005131	E162.4	014516	W031.1
5949R	3	0542	0702		X			X	Y	X	X		5947	023903	E135.5	033248	W057.8
5950A	B	0722	0843		X			Y	Y	X	X		5948	042635	E108.6	052019	W084.8
5951A	3	0909	1030		Y			X	Y	X	X		5949	061406	E081.7	070751	W111.7
5952A	3	1054	1218		X			X	Y	X	X		5950	080138	E054.9	085523	W138.6
5953A	3	1241	1401		Y			X	Y	Y	X		5951	094910	E028.0	104255	W165.5
5954A	B	1425	1544		X			X	Y	X	X		5952	113642	E001.1	123027	E167.7
5955R	3	1557	1717		Y			X	Y	X	Y		5953	132413	W025.0	141758	E140.8
5956A	3	1753	1916		X			X	Y	Y	X		5954	151145	W052.7	160530	E113.9
5957A	3	1941	2102		Y			X	Y	X	Y		5955	165917	W079.6	175302	E087.0
5958A	3	2127	2247		Y			Y	Y	Y	X		5956	184649	W106.5	194033	E060.1
													5957	203421	W133.3	212805	E033.2
													5958	222152	W160.2	231537	E006.4

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
30 AUGUST 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	FRR	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5959O	3	2334	0039					X	X	X	X		5959	000924	E172.9	010302	W020.5
5960O	3	0150	0254					X	X	X	X		5960	015656	E146.0	025040	W047.4
5961R	3	0333	0435		X			X	X	X	X		5961	034428	E119.1	043812	W074.3
5962R	3	0501	0623		X			X	X	X	X		5962	053159	E092.3	062544	W101.2
5963A	3	0641	0800		X			X	X	X	X		5963	071931	E065.4	081316	W128.1
5964A	3	0827	0948		X			X	X	X	X		5964	090703	E038.4	100047	W155.0
5965O	3	1047	1150					X	X	X	X		5965	105435	E011.6	114819	E178.2
5967A	3	1345	1505		X			X	X	X	X		5966	124206	W015.3	133551	E151.3
5968A	3	1527	1643		X			X	X	X	X		5967	142938	W042.2	152323	E124.4
5969A	3	1713	1834		X			X	X	X	X		5968	161710	W069.0	171054	E097.5
5970A	3	1858	2021		X			X	X	X	X		5969	180442	W095.9	185826	E070.6
5971A	3	2045	2206		X			X	X	X	X		5970	195213	W122.8	204558	E043.8
5972A	3	2235	2352		X			X	X	X	X		5971	213945	W149.7	223330	E016.9
													5972	232717	W176.6	002101	W010.0

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
31 AUGUST 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	FRR	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
5973O	3	0107	0211					X	X	X	X		5973	011449	E156.5	020833	W036.9
5974R	3	0252	0351		X			X	X	X	X		5974	030220	E129.7	035605	W063.8
5975R	3	0418	0541		X			X	X	X	X		5975	044952	E102.8	054337	W090.7
5976R	3	0606	0723		X			X	X	X	X		5976	063724	E075.9	073109	W117.5
5977A	3	0745	0907		X			X	X	X	X		5977	082456	E049.0	091840	W144.4
5978A	3	0931	1055		X			X	X	X	X		5978	101227	E022.1	110612	W171.3
5979A	3	1117	1240		X			X	X	X	X		5979	115959	W004.8	125244	E161.8
5980A	3	1302	1425		X			X	X	X	X		5980	134731	W031.6	144115	E134.9
5981A	3	1446	1607		X			X	X	X	X		5981	153503	W058.5	162847	E108.1
5983A	3	1817	1939		X			X	X	X	X		5982	172234	W085.4	181612	E081.2
5984A	3	2005	2125		X			X	X	X	X		5983	191006	W112.3	200351	E054.3
5985A	3	2151	2310		X			X	X	X	X		5984	205738	W139.2	215123	E027.4
													5985	224510	W166.1	233854	E000.5

SECTION 3

ORBIT DISPLAYS OF ESMR

This section briefly describes the ESMR experiment, the format of the image displays derived from the data of this experiment and presents image examples of selected data. A complete description of the ESMR experiment is found in Section of The Nimbus 6 User's Guide.

The ESMR is a two-channel scanning radiometer receiving microwave radiation in a 250 MHz band centered at 37 GHz. One channel is used to measure the vertical polarization of the radiation, and the other measures the horizontal polarization. The antenna beam scans ahead of the spacecraft along a conical surface with a constant angle of 45 degrees with respect to the antenna axis. Spatial resolution of each element is about 20 km in the cross-track direction by 45 km in the direction parallel to the subpoint track.

For a brief description of the HIRS and SCAMS experiments formerly described in this Section, see The Nimbus 6 Data Catalog, Volume 5, Section 3. A complete description of the HIRS and SCAMS experiments may be found in The Nimbus 6 User's Guide, Sections 3 and 4 respectively.

All useable HIRS and SCAMS data have been converted to 4" × 5" black and white images. ESMR data will continue to be converted to 4" × 5" black and white image as long as the experiment continues to function in an operational mode. Selected images from the ESMR experiment from July and August 1976 are presented in this section. Complete coverage times are listed in the Data Availability ON-OFF Times in Table 2-2.

Section 5 of The Nimbus 6 User's Guide describes in detail the image format of the ESMR. The following is a summary of the format, detailing changes to the User's Guide where needed. The processed display contains the following items:

- NIMBUS 6 (ESMR)

  This identifies the satellite and the experiment.

- (DATE)

  This identifies the Greenwich month, day, and year the data were recorded on board the satellite.

- SCALE F (P2)

  Since orbit 3933, ESMR has operated in the P (partial mode). For each experiment the data from each interrogation orbit is displayed on a single image. Through orbit 3932 (31 March 1976), each ESMR scan line is displayed once and twice after orbit 3932. Similarly, each of the 71 scan-spot elements is displayed once through orbit 3932 and twice after orbit 3933.

- INT ORBIT

  The interrogation orbit number identifies the orbit in progress when the recorded data is transmitted to a STDN station. Usually parts of two data orbits are on the same display. The interrogation orbit number will only identify the last orbit of each display.

- TIME (and) SUBPOINT

  Satellite time and latitude-longitude information are presented along the vertical line down the center of each display. The line represents the satellite subpoint track, which is located down the center of each of the swaths on each display. Time is GMT with ticks along the left side of the line at each five minutes mark (on the five minutes). Time is annotated (hour and minute) every 15 minutes (on the quarter hour).

  Subpoint information presents latitude and longitude positions of the satellite subpoint. Each tick mark on the right side of the vertical line is annotated with the subpoint latitude and longitude (to the nearest degree). Latitude is labeled N (north or S (south). Longitude is labeled E (east) or W (west).

  After orbit 3933, the ESMR data display was changed. The following condensed changes apply for TIME and SUBPOINT information: Satellite time information is presented along the vertical lines to the left and to the right of the data display. Time is GMT with 5 minute tick marks. Time annotations consist of hour-minute displays with 15 minute intervals or quarter-hour notations.

  Latitude and longitude coordinates are in grid form centrally placed between two sets of data; each data set are a compliment of the appropriate grid overlay immediately adjacent to its border. For a complete description of new format see ESMR CHANNEL-RANGE DISPLAYS, this section of the catalog.

- GRAY SCALE

  Each image has an 18-step gray scale along the bottom of the display. The gray scales are used to define parameter value intervals for each image swath of each display by assigning different parameter values to the gray scale for each swath. Tables 3-1 and 3-2 define the parameter values versus gray scale for each ESMR image swath.

- 3200

  This identifies the computer used to process the data. All data was processed by the Control Data Corporation (CDC) 3200.

ESMR CHANNEL-RANGE DISPLAYS

Through orbit 3932 (31 March) the ESMR displays contained 20 swaths of data, as shown in the ESMR image displays up to orbit 3932 in Section 3.3. The swaths are numbered (numbers not shown) from 1 on the left to 20 on the right. Each of the ten swaths on the left has the same geographic coverage. However, each swath displays either horizontally or vertically polarized data at a temperature range as listed in Table 3-1. The right set of ten swaths has a similar format, and displays the earliest recorded data. If the right swaths were cut and placed above the group on the left, the new display would show the continuous coverage recorded for that orbit. Swaths 1 and 11 have the same polarization and temperature range. Similarly, swaths 2 and 12, 3 and 13, etc., are the same. Table 3-1 is set up to show this duplication of parameter information.

The ESMR display format was modified at orbit 3933 (31 March 1976). After this orbit all displays will have the following new format.

The new displays contain ten swaths of data plus a geographic grid overlay for each swath, as shown in the ESMR image displays after orbit 3933 in Section 3.3.

The swaths are numbered (numbers not displayed) from 1 on the left to 10 on the right. Each of the five swaths on the left has the same geographic coverage. However, each swath displays either horizontally or vertically polarized data at a temperature range as listed in Table 3-2. The right set of five swaths has a similar format, and displays the latest recorded data. If the right swaths were cut and placed below the group on the left, the new display would show the continuous coverage of that display.

Swaths 1 and 6 display the same parameter. That is, the temperature range and polarization for swaths 1 and 6 are the same. Similarly, swaths 2 and 7, 3 and 8, 4 and 9, and 5 and 10 display the same parameters. Table 3-2 is set up to show this duplication of parameter information.

Data time (GMT) references for the left set of five swaths are shown adjacent to the vertical line at the left. Time tick marks are every five minutes with hour and minute annotation every fifteen minutes. Data time references for the right set of five swaths are shown in a similar manner adjacent to the vertical line at the right.

The center portion of the display contains two swaths of grid overlay information: the left grid for overlay on each of the five swaths on the left, and the right grid for overlay on each of the five swaths on the right. The grid longitudes are generated at ten degree intervals between 55 degrees south and 55 degrees north, and at 20 degree intervals from 55 degrees to the Poles. Latitude grids are generated every five degrees. All grid lines consist of a series of dots at one degree intervals. Latitudes are labeled at 60°S, 30°S, EQ, 30°N, and 60°N. Longitude labels are normally placed next to each latitude label.

Table 3-1

Brightness Temperature Value for each Step of the Gray Scale on ESMR Image Displays for Orbits 828 through 3932 (13 August 1975 through 31 March 1976) (Brightness Temperatures are in °K)

Gray Scale Number		Swath Number and ESMR Display Parameter									
		1 and 11 (T_H)	2 and 12 (T_V)	3 and 13 $\left(\frac{T_H+T_V}{2}\right)$	4 and 14 (T_H)	5 and 15 (T_V)	6 and 16 $\left(\frac{T_H+T_V}{2}\right)$	7 and 17 (T_H)	8 and 18 (T_V)	9 and 19 $\left(\frac{T_H+T_V}{2}\right)$	10 and 20 (T_V-0.6T_H)
(black)	1	> 200	> 230	> 210	> 250	> 270	> 250	> 290	> 300	> 280	> 140
	2	196-200	226-230	206-210	246-250	267-270	247-250	287-290	298-300	278-280	136-140
	3	191-196	223-226	203-206	243-246	264-267	244-247	284-287	295-298	275-278	133-136
	4	187-191	219-223	199-203	239-243	261-264	241-244	281-284	293-295	273-275	129-133
	5	183-187	215-219	195-199	235-239	258-261	238-241	278-281	290-293	270-273	125-129
	6	178-183	211-215	191-195	231-235	254-258	234-238	274-278	288-290	268-270	121-125
	7	174-178	208-211	188-191	228-231	251-254	231-234	271-274	285-288	265-268	118-121
	8	169-174	204-208	184-188	224-228	248-251	228-231	268-271	283-285	263-265	114-118
	9	165-169	200-204	180-184	220-224	245-248	225-228	265-268	280-283	260-263	110-114
	10	161-165	196-200	176-180	216-220	242-245	222-225	262-265	278-280	258-260	106-110
	11	156-161	193-196	173-176	213-216	239-242	219-222	259-262	275-278	255-258	103-106
	12	152-156	189-193	169-173	209-213	236-239	216-219	256-259	273-275	253-255	99-103
	13	148-152	185-189	165-169	205-209	233-236	213-216	253-256	270-273	250-253	95-99
	14	143-148	181-185	161-165	201-205	229-233	209-213	249-253	268-270	248-250	91-95
	15	139-143	178-181	158-161	198-201	226-229	206-209	246-249	265-268	245-248	88-91
	16	134-139	174-178	154-158	194-198	223-226	203-206	243-246	263-265	243-245	84-88
	17	130-134	170-174	150-154	190-194	220-223	200-203	240-243	260-263	240-243	80-84
(white)	18	< 130	< 170	< 150	< 190	< 220	< 200	< 240	< 260	< 240	< 80

T_H = Brightness temperature derived from the ESMR horizontal polarization data

T_V = Brightness temperature derived from the ESMR vertical polarization data

Table 3-2

Brightness Temperature Value for each Step of the Gray Scale on ESMR Image Displays for Orbits 3933 through 5985 (31 March through 31 August 1976)

(Brightness Temperatures are in °K)

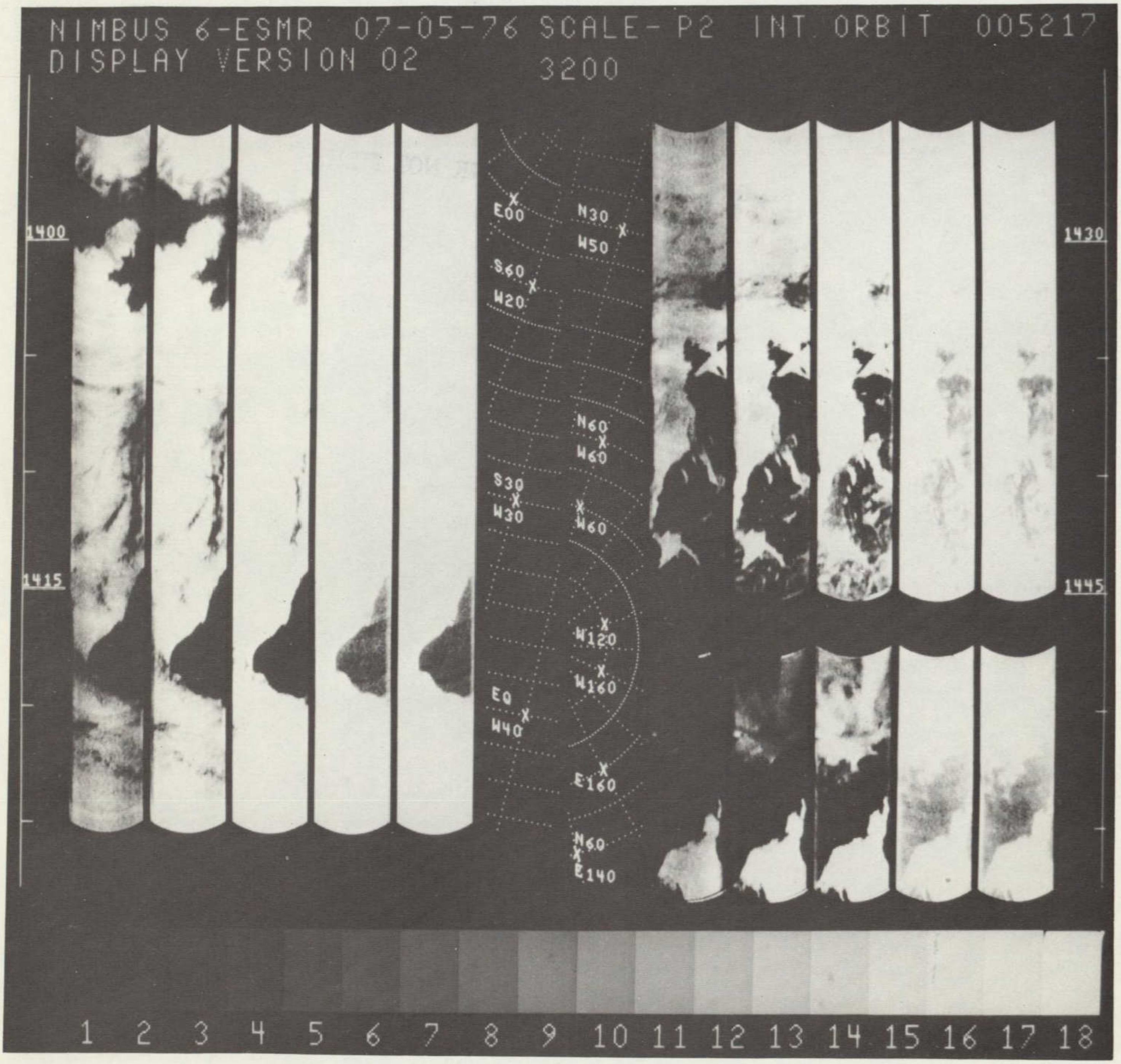
Gray Scale Number	Swath Number and ESMR Display Parameter				
	1 and 6 (T_H)	2 and 7 (T_H)	3 and 8 (T_H)	4 and 9 (T_V)	5 and 10 $\left(\frac{T_H + T_V}{2}\right)$
(black) 1	> 200	> 230	> 210	> 250	> 270
2	196-200	296-230	206-210	246-250	267-270
3	191-196	223-226	203-206	243-246	264-267
4	187-191	219-223	199-203	239-243	261-264
5	183-187	215-219	195-199	235-239	258-261
6	178-183	211-215	191-195	231-235	254-258
7	174-178	208-211	188-191	228-231	252-254
8	169-174	204-208	184-188	224-228	248-251
9	165-169	200-204	180-184	220-224	245-248
10	161-165	196-200	176-180	216-220	242-245
11	156-161	193-196	173-176	213-216	239-242
12	152-156	189-193	169-173	209-213	236-239
13	148-152	185-189	165-169	205-209	233-236
14	143-148	181-185	161-165	201-205	229-233
15	139-143	178-181	158-161	198-201	226-229
16	134-139	174-178	154-158	194-198	223-226
17	130-134	170-174	150-154	190-194	220-223
(white) 18	< 130	<170	<150	<190	< 220

T_H = Brightness temperature derived from the ESMR horizontal polarization data

T_V = Brightness temperature derived from the ESMR vertical polarization data

SECTION 3.1

SELECTED ESMR IMAGE DISPLAYS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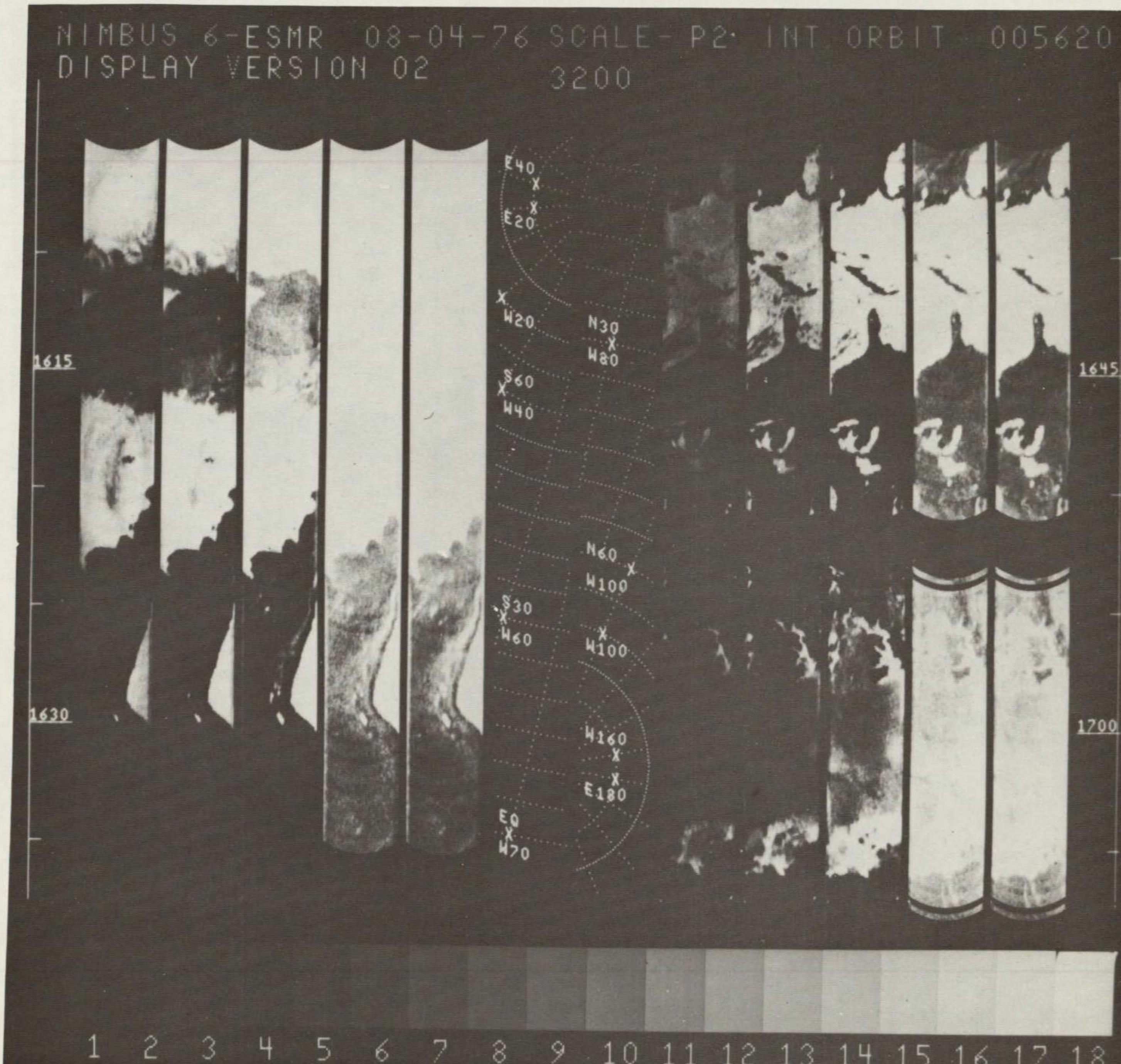
1415
1430
1445
E00
N30
W50
S60
W20
N60
W60
S30
W30
W60
W120
W160
EQ
W40
E160
N60
E140
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18



NIMBUS 6-ESMR 08-04-76 SCALE- P2 INT ORBIT 005620
DISPLAY VERSION 02
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1615
1630
1645
1700
E40
E20
W20
N30
W80
S60
W40
N60
W100
S30
W60
W100
W160
E180
EQ
W70
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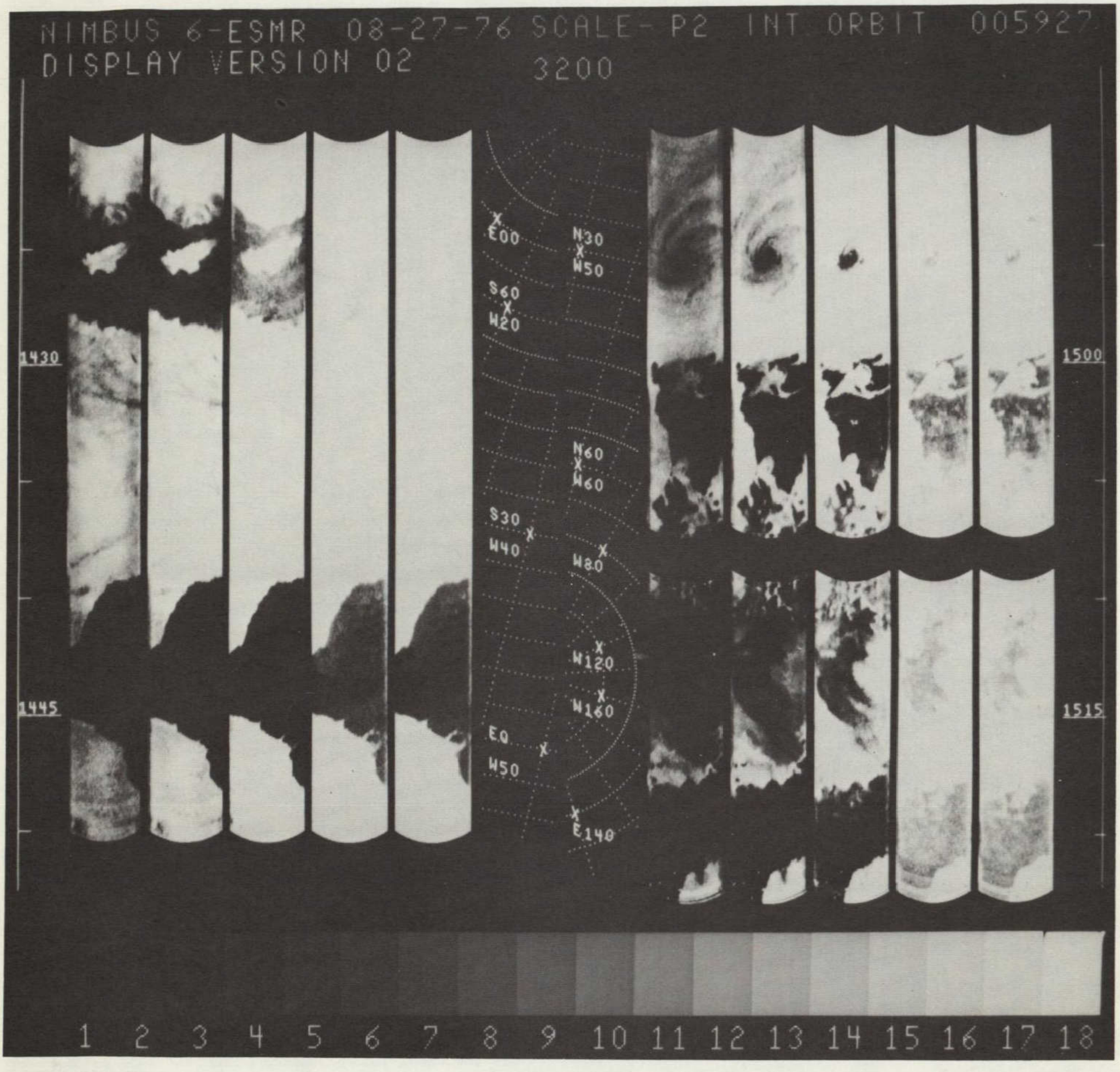
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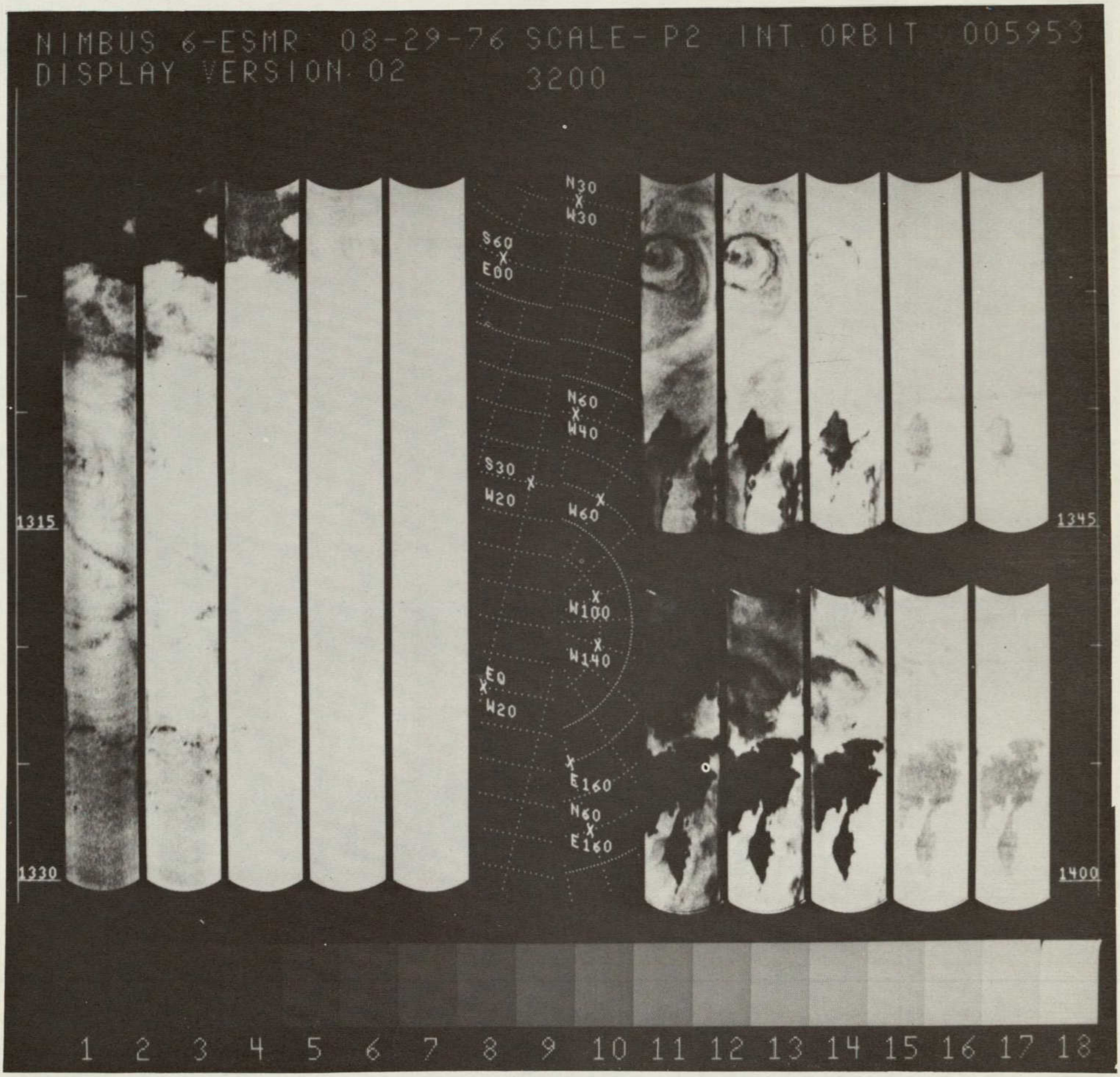
1445
1500
1515
E00
S60
W20
N30
W50
N60
W60
S30
W40
W80
W120
W160
EQ
W50
E140
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18



NIMBUS 6-ESMR 08-29-76 SCALE- P2 INT ORBIT 005953
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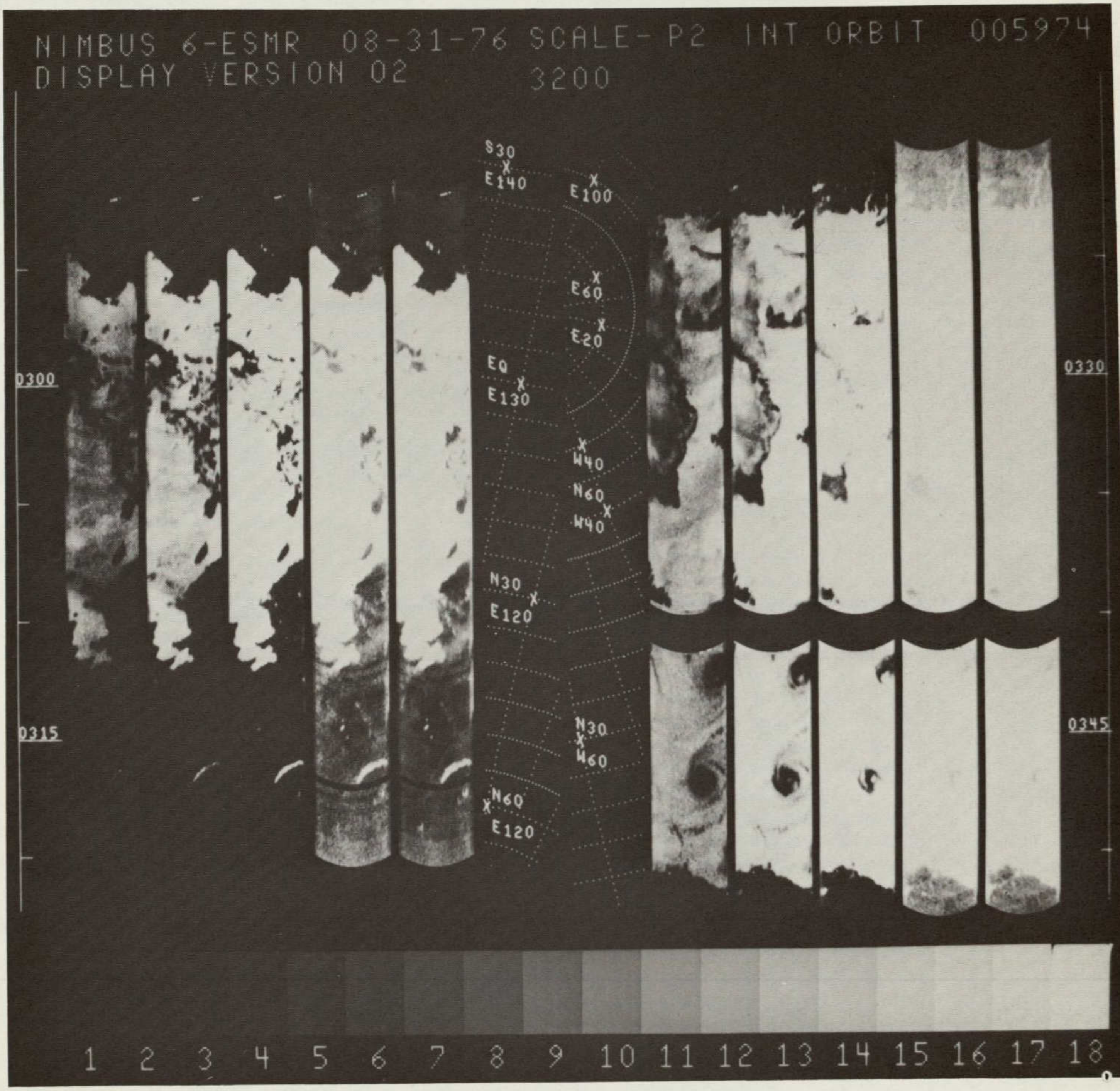
S60 X E00
N60 X W40
S30 X W20
X W60
X W100
X W140
EQ X W20
X E160
N60 X E160
1315
1330
1345
1400
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18


NIMBUS 6-ESMR 08-30-76 SCALE- P2 INT ORBIT 005967
DISPLAY VERSION 02
3200
N30 W50
S60 W20
N60 W60
S30 W30
W60
W120
W160
EQ W40
E160
N60 E140
1415
1430
1445
1500
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18


NIMBUS 6-ESMR 08-31-76 SCALE- P2 INT ORBIT 005974
DISPLAY VERSION 02 3200
S30
E140
E100
E60
E20
EQ
E130
W40
N60
W40
N30
E120
N30
W60
N60
E120
0300
0315
0330
0345
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

When ordering THIR photographic data from NSSDC the following information should be given:

- Satellite (e. g. Nimbus 6)
- Date of data
- Data orbit number, channel (11.5 μm or 6.7 μm), and whether day or night data
- Data format, i. e., positive or negative transparencies, or prints
- Area of interest defined by latitude and longitude

In addition to the THIR film strips, photographic copies of the daily day or night montages prepared from film strips can be obtained.

Quantitative digital data are obtained when the original analog signals are digitized with full fidelity, and processed by an IBM 360 computer, where calibration and geographic referencing are applied. Each reduced radiation data tape prepared by the IBM 360 is called a Nimbus Meteorological Radiation Tape-THIR (NMRT-THIR). The NMRT can be used to generate grid print maps or to accomplish special scientific analyses. The format of this tape may be found in The Nimbus 6 User's Guide, Section 2.

Due to the large volume and the long computer running time required for processing THIR into NMRTs, Nimbus 6 THIR digital data are not routinely reduced to final NMRT format. Only those data which are specifically requested by the user will be processed. Requests should be made through NSSDC. The user is urged to make full use of the film strips which are abundantly available in nearby real time from the NSSDC.

A series of programs at GSFC produce printed and contoured data referenced to a grid on Polar Stereographic or Mercator map bases. These are called grid print maps. The advantages of the grid print map presentation are the display of absolute values of temperatures in their approximate location and geographical rectification of the data. Grid print maps may be produced for either a single orbit or a composite of several orbits. The following standard options are available and should be specified when requesting grid print maps from NSSDC.

- Map and Approximate Scale

  a. Polar Stereographic, 1:30 million

  b. Polar Stereographic, 1:10 million

c. Multi-resolution Mercator maps are available down to 1:1 million scale.

- Maximum Scan Angle (50 degrees is practical limit)

- Field Values and Contouring. Unless otherwise specified, all maps will include field values and contouring except Mercator maps of scales larger than 1:20 million. A data population map, indicating the number of individual measurements contained in each grid point average, as well as a latitude-longitude description for geographically locating the data, will be provided along with each grid print map.

When ordering grid print map data, the following identifying information should be given:

- Satellite (e.g., Nimbus 6)

- Sensor (THIR)

- Channel (6.7 μm or 11.7 μm)

- Data Orbit Number

- Calendar Date of Equator Crossing

- Beginning and Ending Times of Data in GMT

- Latitude and Longitude Limits of Area of Interest

- Map Type and Map Scale

- Scan Angle Limits

- Contouring or No Contouring of Data Points

When ordering NMRTs, the "Calendar Date of Equator Crossing" and "Map type and Map Scale" can be omitted.

Beginning and ending times of data in GMT can be interpolated using Table 4-1 which gives the elapsed time from either ascending or descending node as a function of latitude. These elapsed time values can be appropriately added or subtracted from node times given in Table 2-2.

A complete description of the THIR experiment may be found in The Nimbus 6 User's Guide, Section 2.

Table 4-1

Latitude Versus Minutes From
Ascending or Descending Node

Latitude from AN or DN	Minutes and Seconds from AN or DN
0	0:00
5	1:31
10	3:02
15	4:33
20	6:03
25	7:34
30	9:05
35	10:36
40	12:08
45	13:40
50	15:12
55	16:44
60	18:18
65	19:52
70	21:33
75	23:26
78	24:44
80.1	26:49
78	29:00
75	30:09
70	31:51
65	33:35

SECTION 4.1

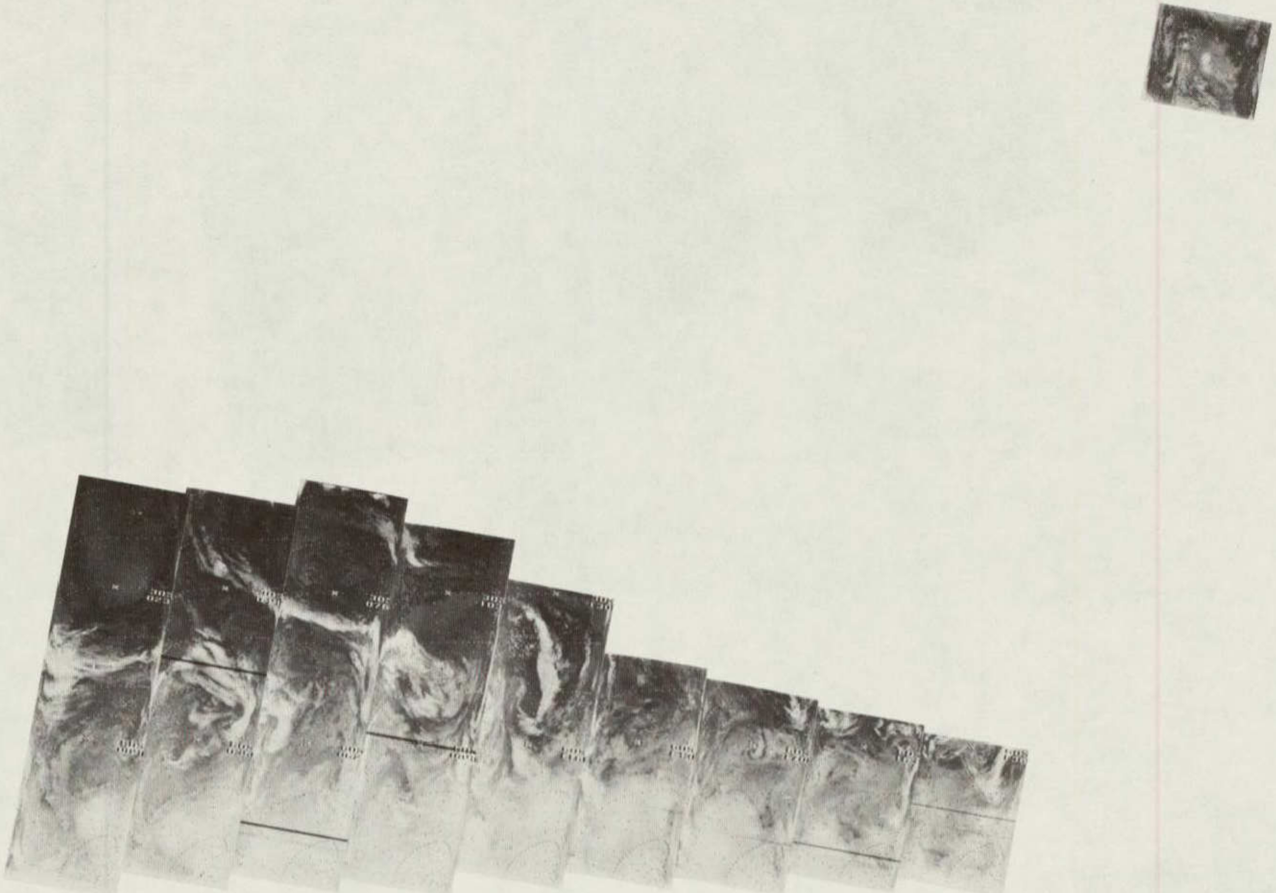
TEMPERATURE HUMIDITY INFRARED RADIOMETER

NIGHTTIME MONTAGES

5168 5167 5166 5165 5164 5163 5162 5161 5160 5159 5158 5157 5156

1 JULY 76

6.7 μm



5168 5167 5166 5165 5164 5163 5162 5161 5160 5159 5158 5157 5156

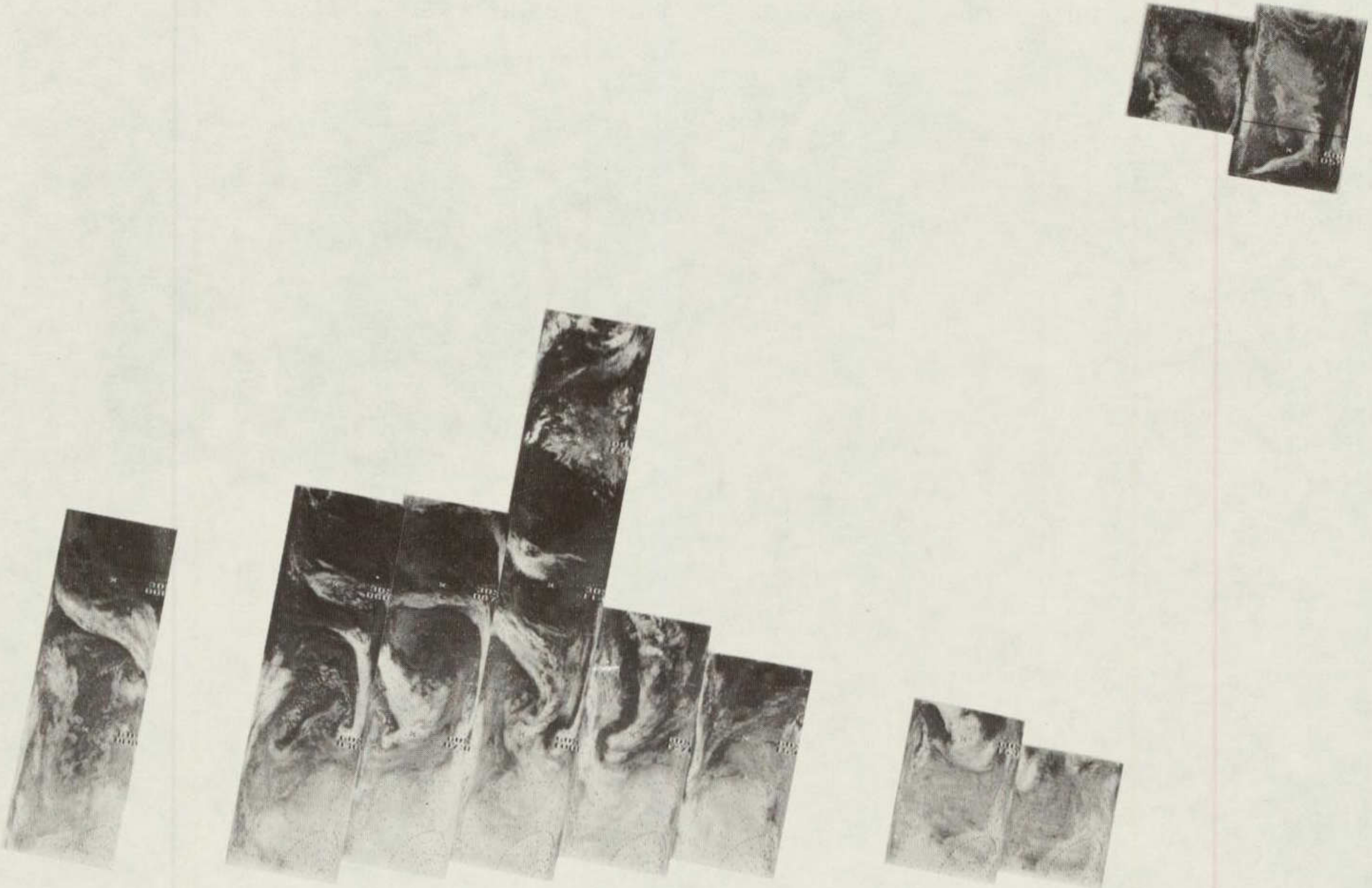
1 JULY 76

11.5 μm

5182 5181 5180 5179 5178 5177 5176 5175 5174 5173 5172 5171 5170 5169

2 JULY 76

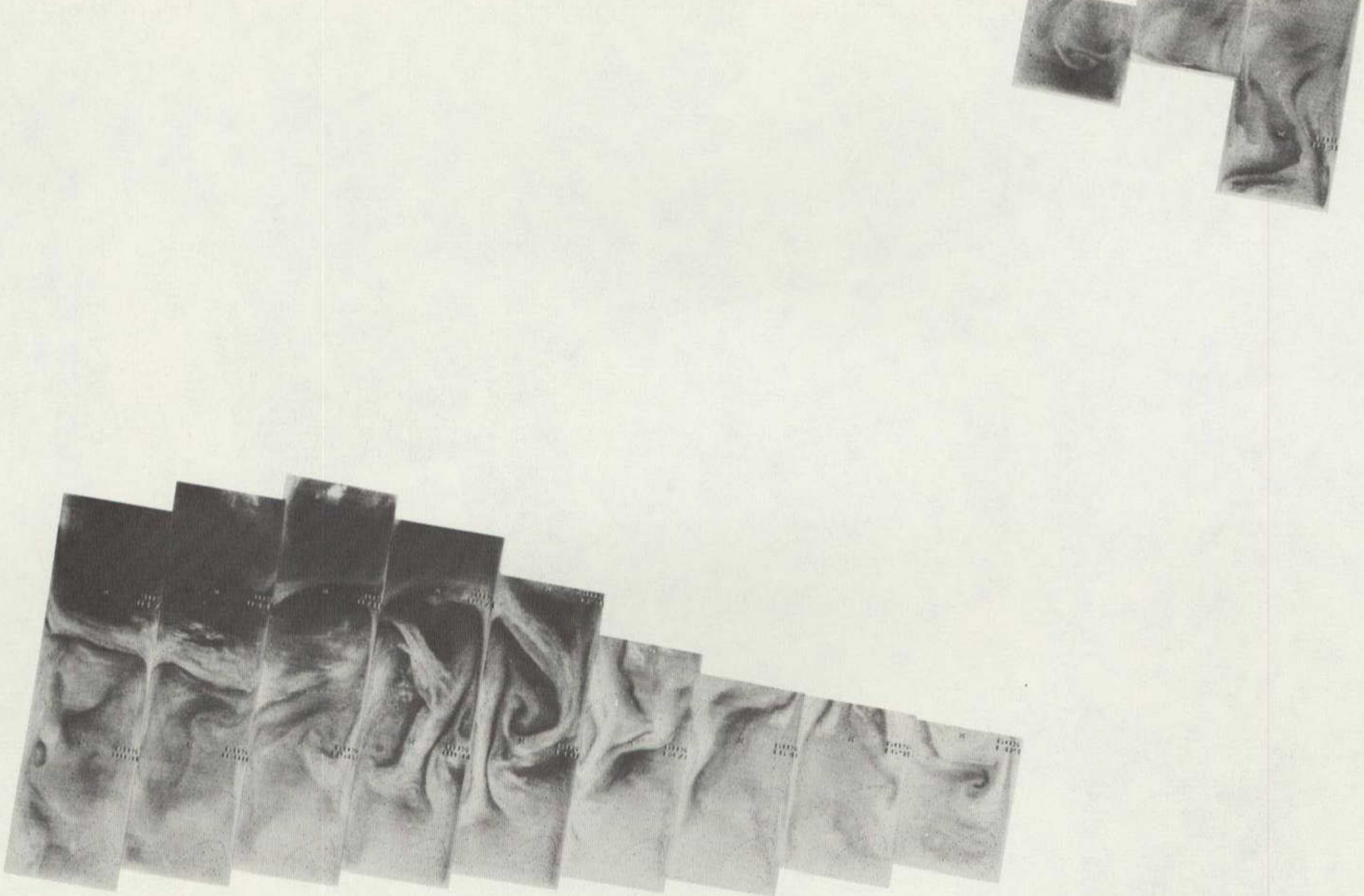
6.7 μm



5182 5181 5180 5179 5178 5177 5176 5175 5174 5173 5172 5171 5170 5169

2 JULY 76

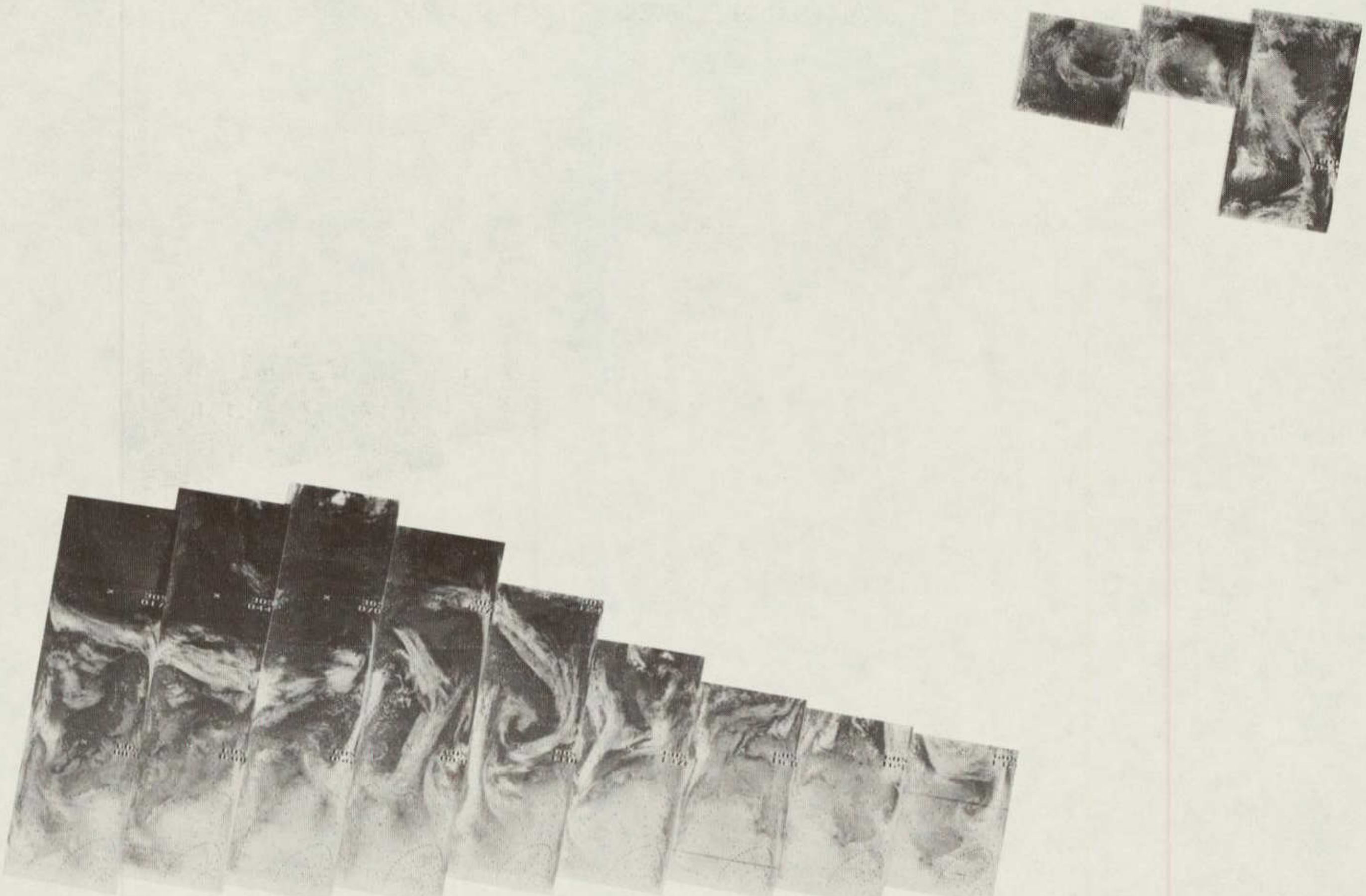
11.5 μm



5195 5194 5193 5192 5191 5190 5189 5188 5187 5186 5185 5184 5183

3 JULY 76

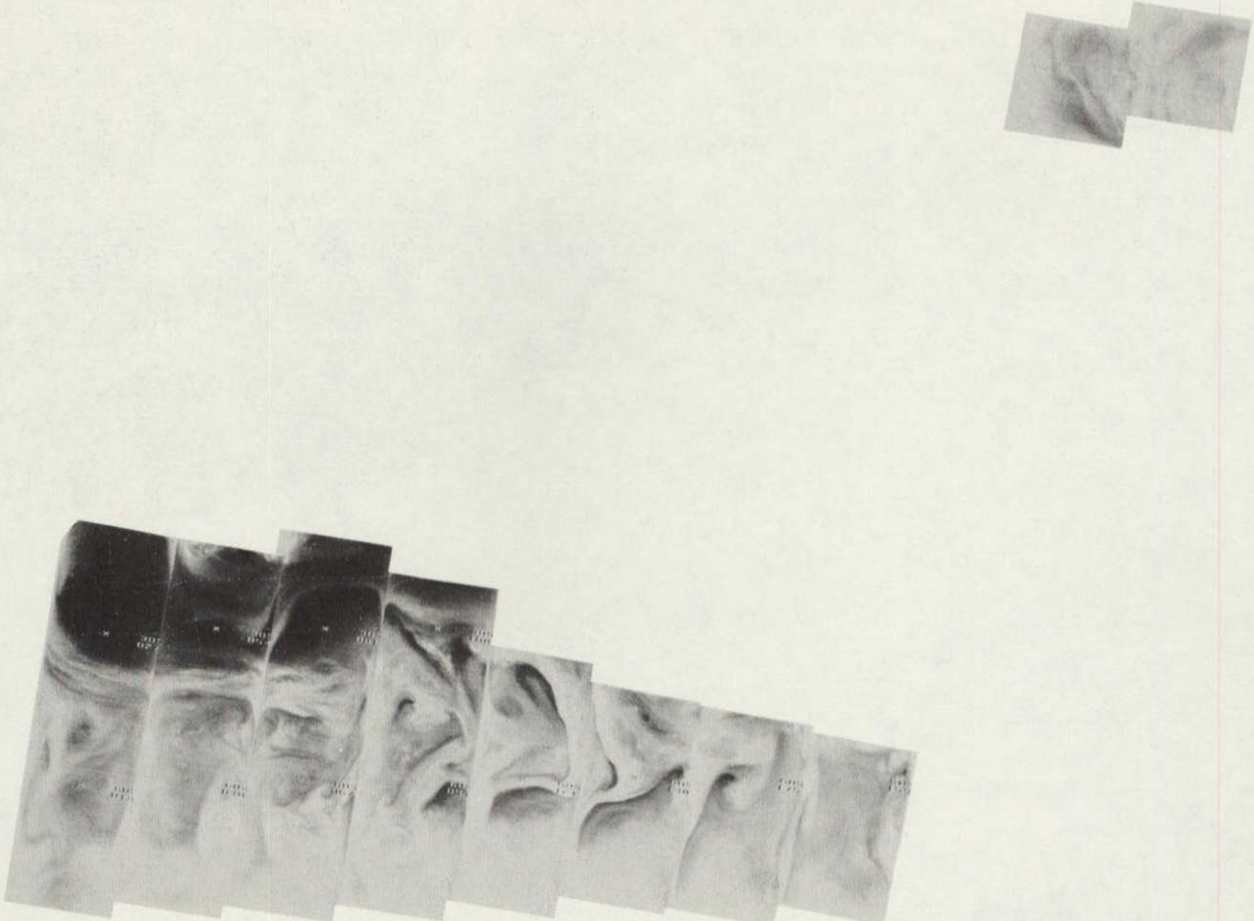
6.7 μm



5195 5194 5193 5192 5191 5190 5189 5188 5187 5186 5185 5184 5183

3 JULY 76

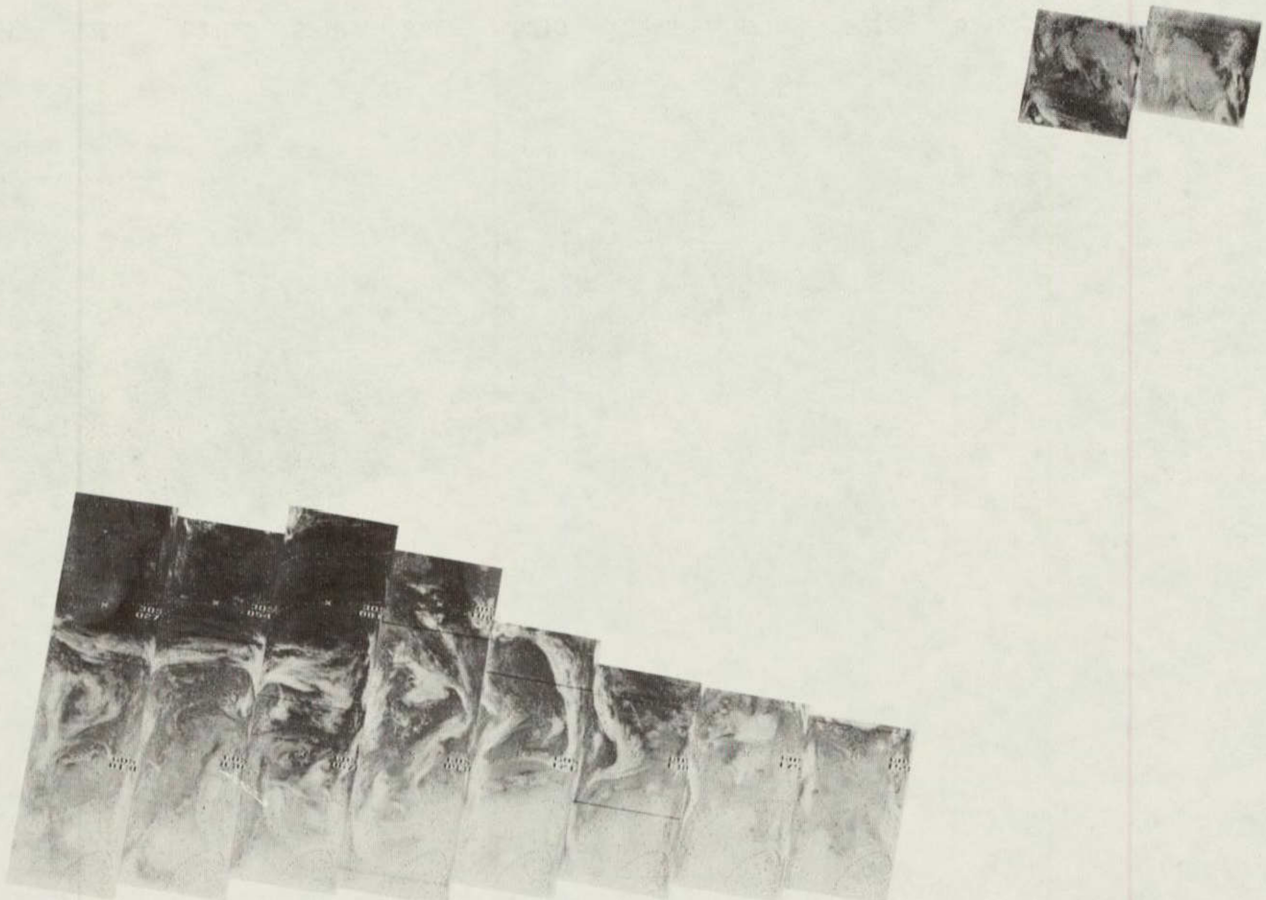
11.5 μm



5208 5207 5206 5205 5204 5203 5202 5201 5200 5199 5198 5197 5196

4 JULY 76

6.7 μm



5208 5207 5206 5205 5204 5203 5202 5201 5200 5199 5198 5197 5196

4 JULY 76

11.5 μm

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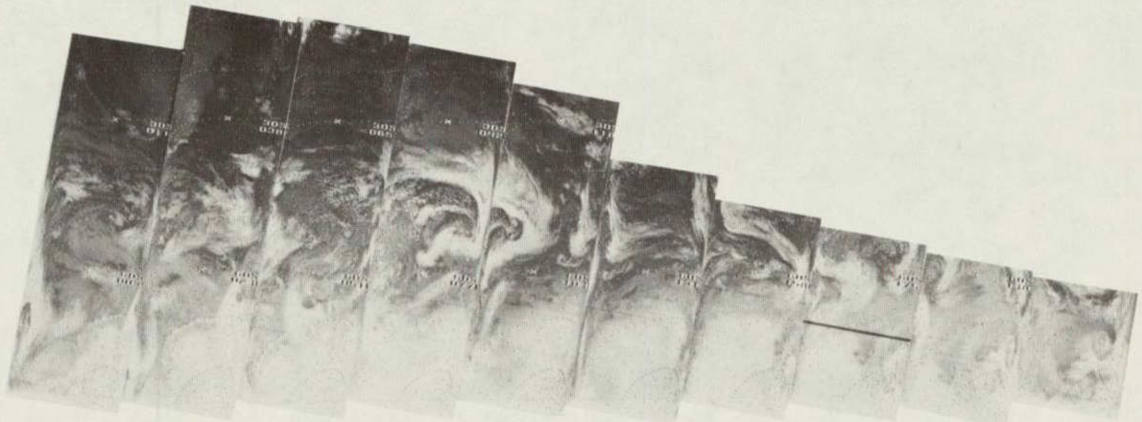
5222 5221 5220 5219 5218 5217 5216 5215 5214 5213 5212 5211 5210 5209

5 JULY 76

6.7 μm



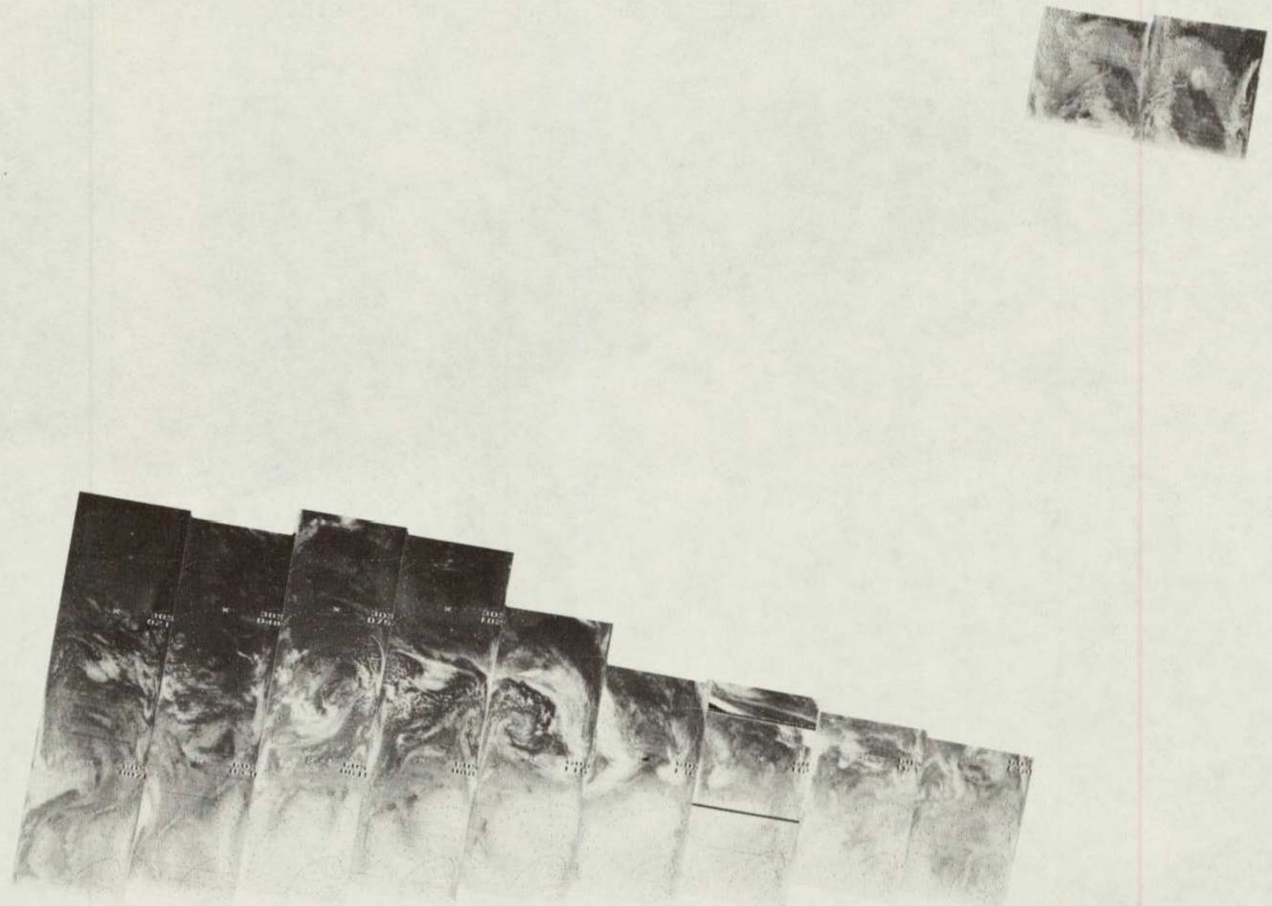
5 JULY 76

11.5 μm

5235 5234 5233 5232 5231 5230 5229 5228 5227 5226 5225 5224 5223

6 JULY 76

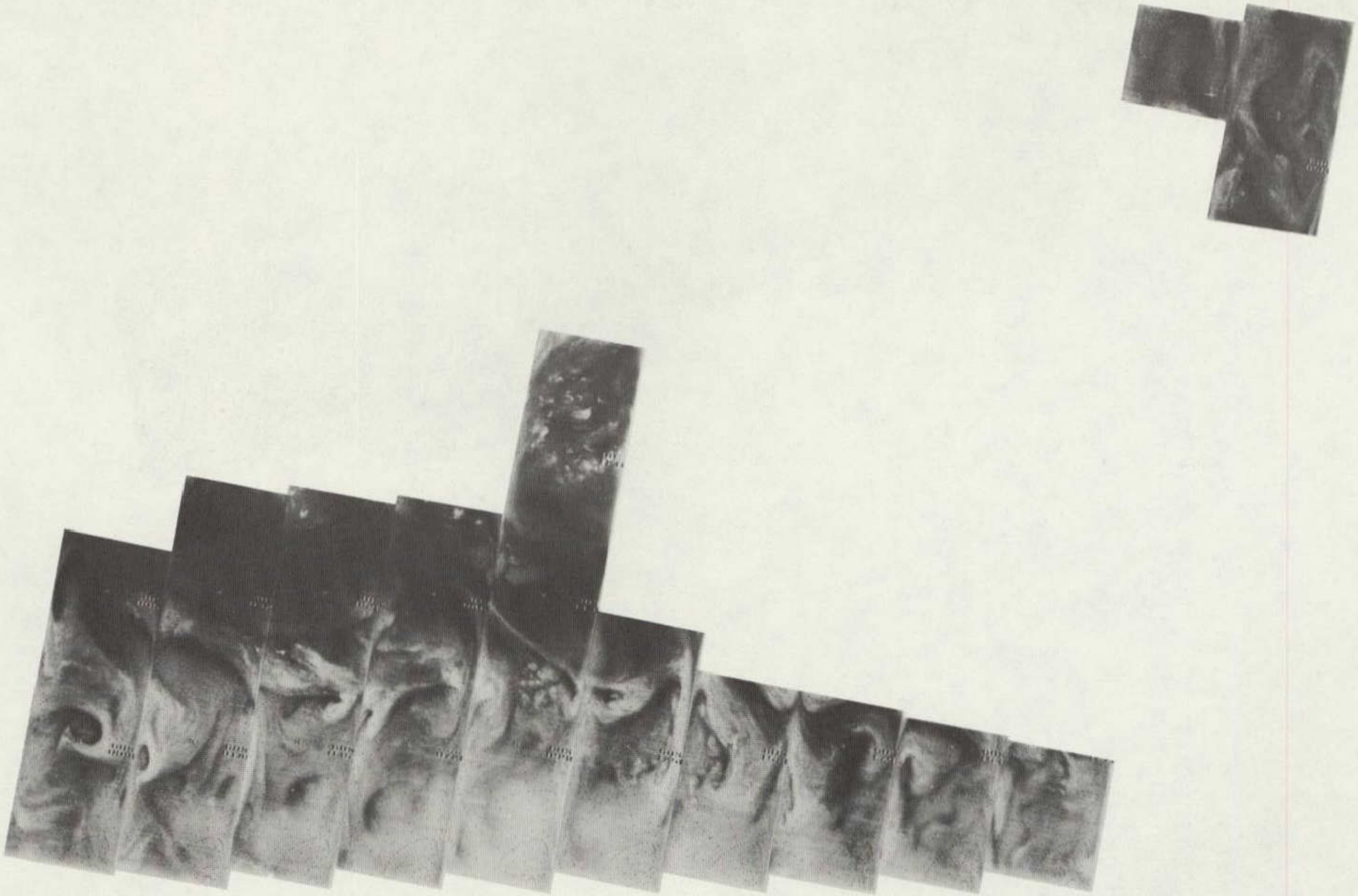
6.7 μm



5235 5234 5233 5232 5231 5230 5229 5228 5227 5226 5225 5224 5223

6 JULY 76

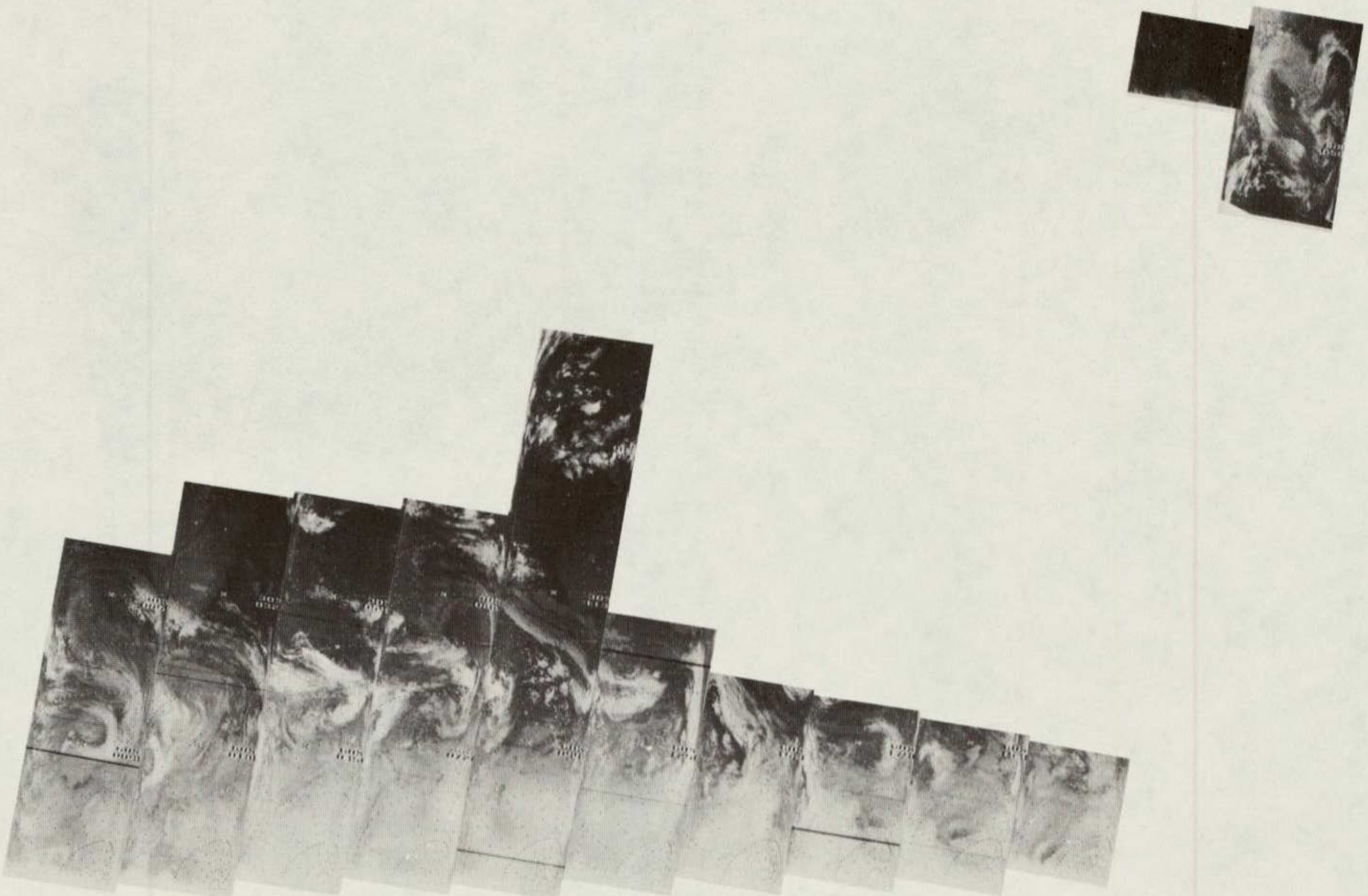
11.5 μm



5249 5248 5247 5246 5245 5244 5243 5242 5241 5240 5239 5238 5237 5236

7 JULY 76

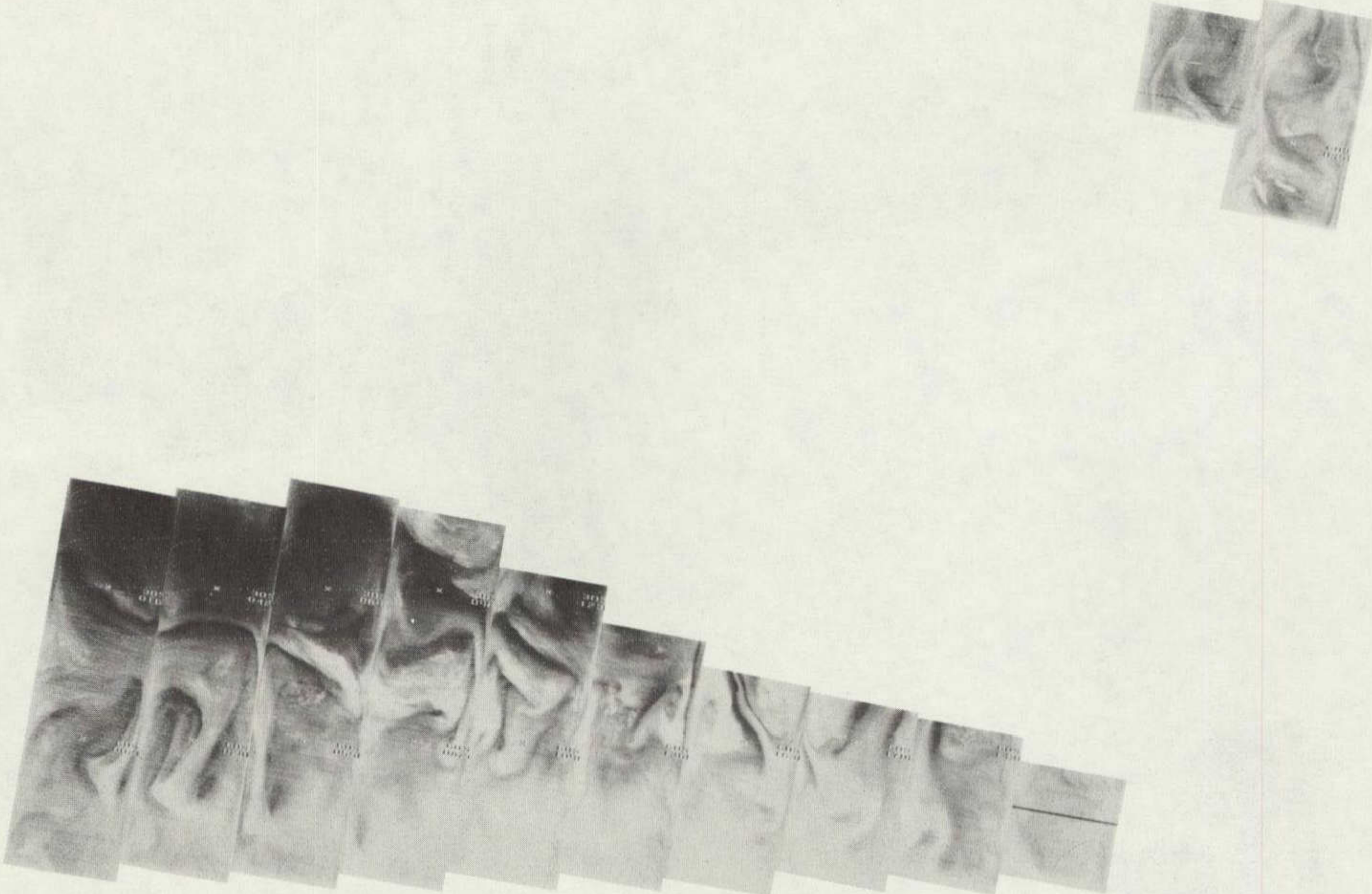
6.7 μm



5249 5248 5247 5246 5245 5244 5243 5242 5241 5240 5239 5238 5237 5236

7 JULY 76

11.5 μm



5262 5261 5260 5259 5258 5257 5256 5255 5254 5253 5252 5251 5250

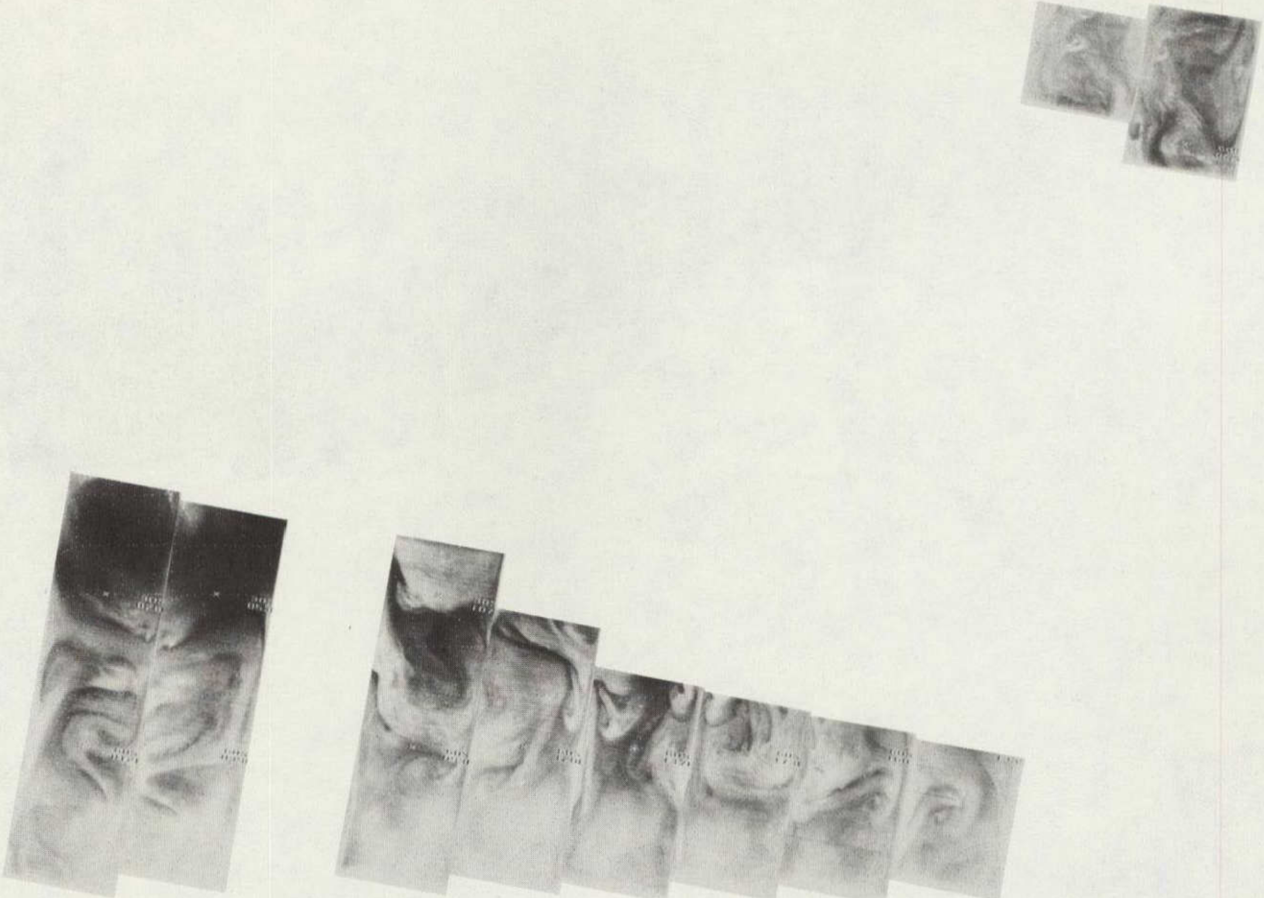
8 JULY 76

6.7 μm

5262 5261 5260 5259 5258 5257 5256 5255 5254 5253 5252 5251 5250

8 JULY 76

11.5 μm



9 JULY 76

6.7 μm

5275 5274 5273 5272 5271 5270 5269 5268 5267 5266 5265 5264 5263

9 JULY 76

11.5 μm

5289 5288 5287 5286 5285 5284 5283 5282 5281 5280 5279 5278 5277 5276

10 JULY 76

6.7 μm

5289 5288 5287 5286 5285 5284 5283 5282 5281 5280 5279 5278 5277 5276

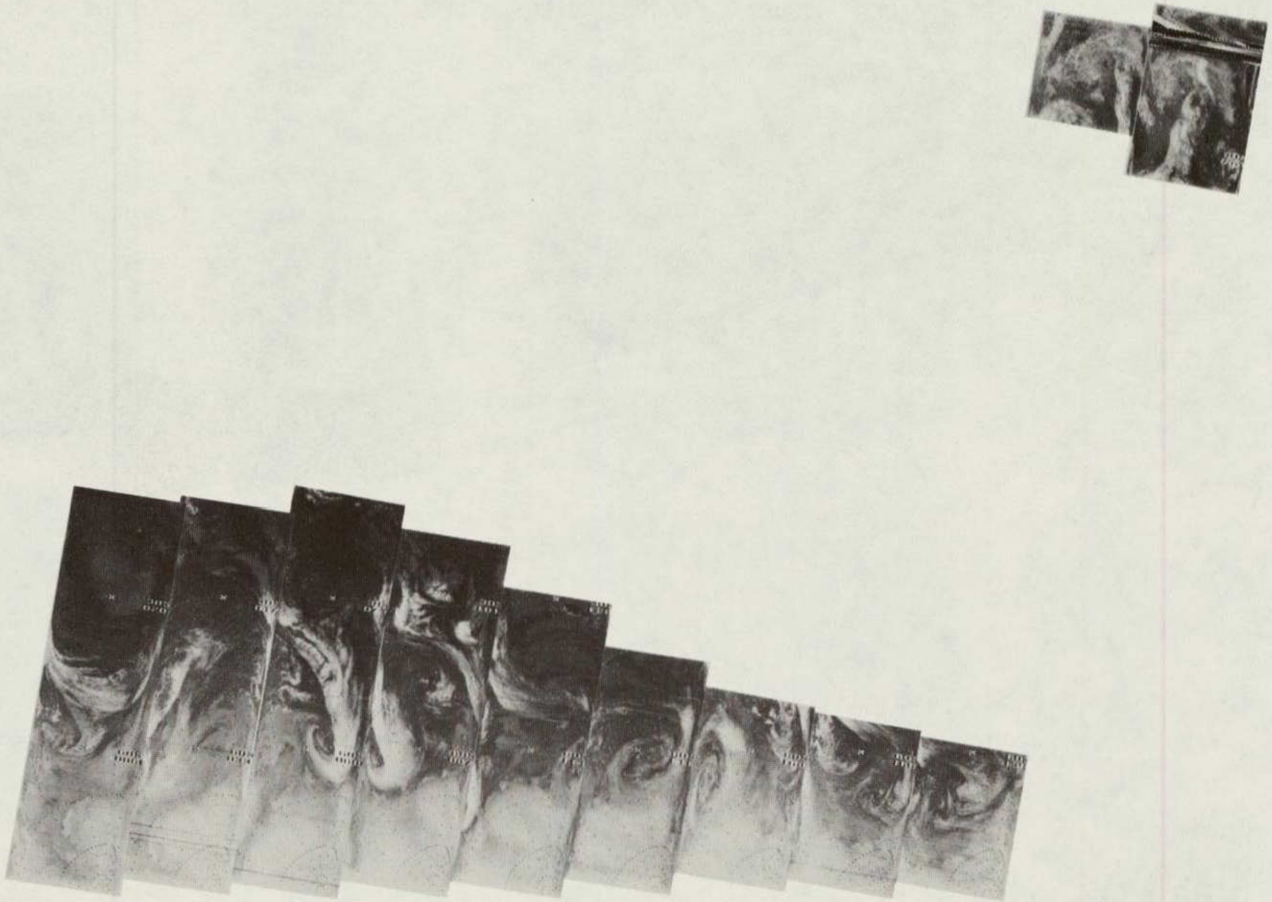
10 JULY 76

11.5 μm

5302 5301 5300 5299 5298 5297 5296 5295 5294 5293 5292 5291 5290

11 JULY 76

6.7 μm



5302 5301 5300 5299 5298 5297 5296 5295 5294 5293 5292 5291 5290

11 JULY 76

11.5 μm

5316 5315 5314 5313 5312 5311 5310 5309 5308 5307 5306 5305 5304 5303

12 JULY 76

6.7 μm

5316 5315 5314 5313 5312 5311 5310 5309 5308 5307 5306 5305 5304 5303

12 JULY 76

11.5 μm

5329 5328 5327 5326 5325 5324 5323 5322 5321 5320 5319 5318 5317

13 JULY 76

6.7 μm

5329 5328 5327 5326 5325 5324 5323 5322 5321 5320 5319 5318 5317

13 JULY 76

11.5 μm

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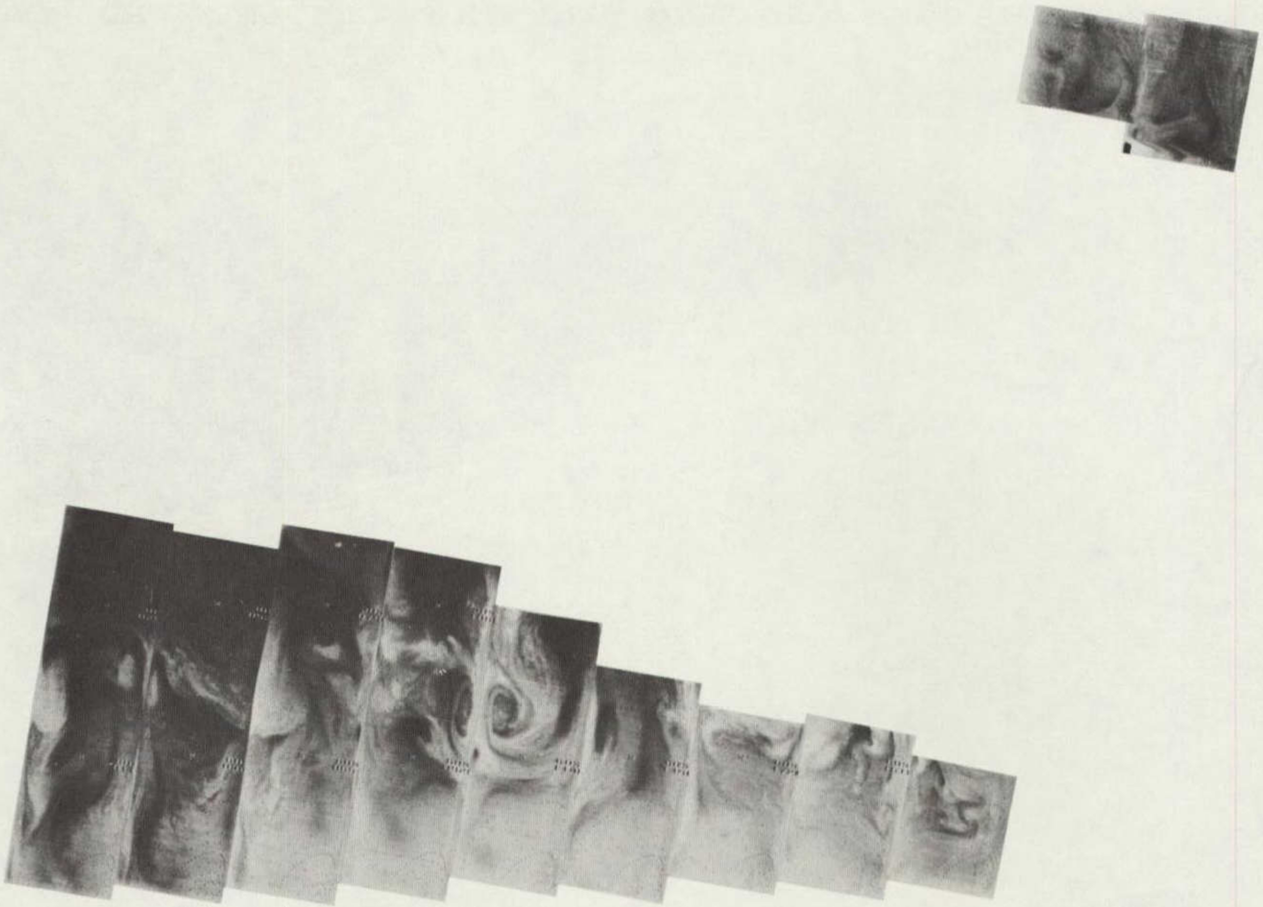
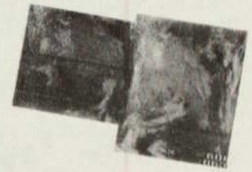


5342 5341 5340 5339 5338 5337 5336 5335 5334 5333 5332 5331 5330

14 JULY 76

6.7 μm



5342 5341 5340 5339 5338 5337 5336 5335 5334 5333 5332 5331 5330

14 JULY 76

11.5 μm

C-2

5356 5355 5354 5353 5352 5351 5350 5349 5348 5347 5346 5345 5344 5343

15 JULY 76

6.7 μm

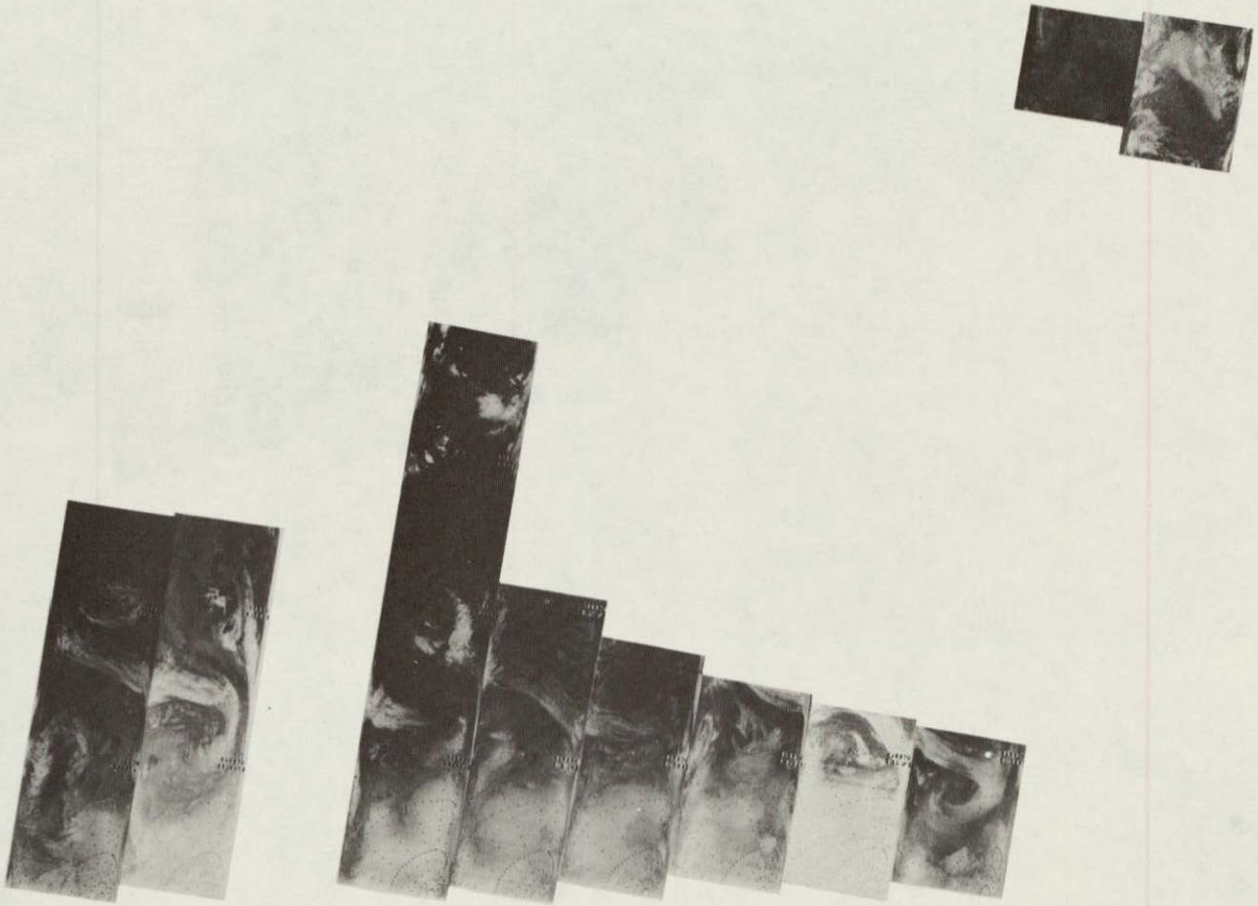
15 JULY 76

11.5 μm

5369 5368 5367 5366 5365 5364 5363 5362 5361 5360 5359 5358 5357

16 JULY 76

6.7 μm



5369 5368 5367 5366 5365 5364 5363 5362 5361 5360 5359 5358 5357

16 JULY 76

11.5 μm

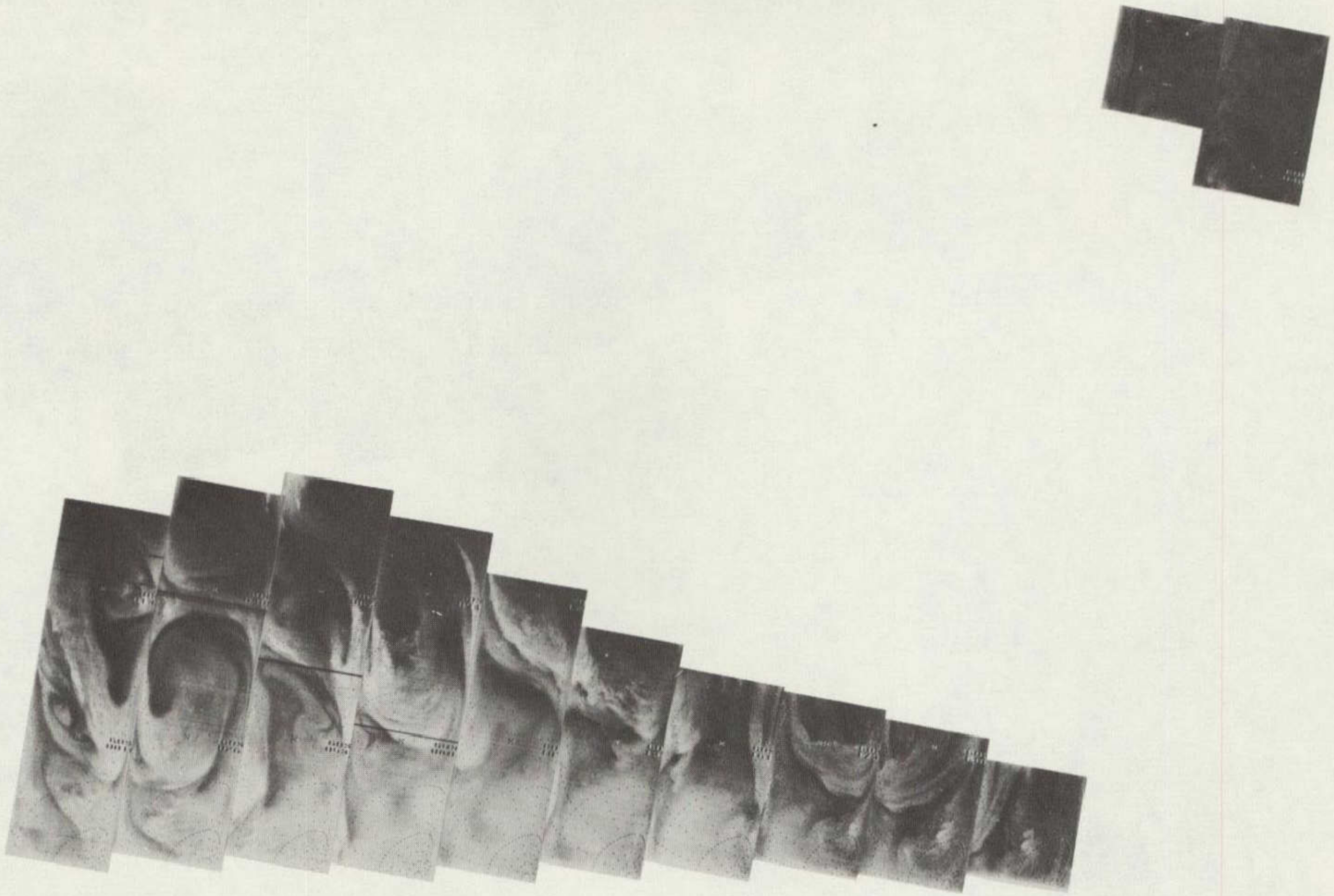
5383 5382 5381 5380 5379 5378 5377 5376 5375 5374 5373 5372 5371 5370

17 JULY 76

6.7 μm

17 JULY 76

11.5 μm



5396 5395 5394 5393 5392 5391 5390 5389 5388 5387 5386 5385 5384

18 JULY 76

6.7 μm

5396 5395 5394 5393 5392 5391 5390 5389 5388 5387 5386 5385 5384

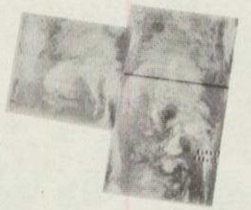
18 JULY 76

11.5 μm

5409 5408 5407 5406 5405 5404 5403 5402 5401 5400 5399 5398 5397

19 JULY 76

6.7 μm



5409 5408 5407 5406 5405 5404 5403 5402 5401 5400 5399 5398 5397

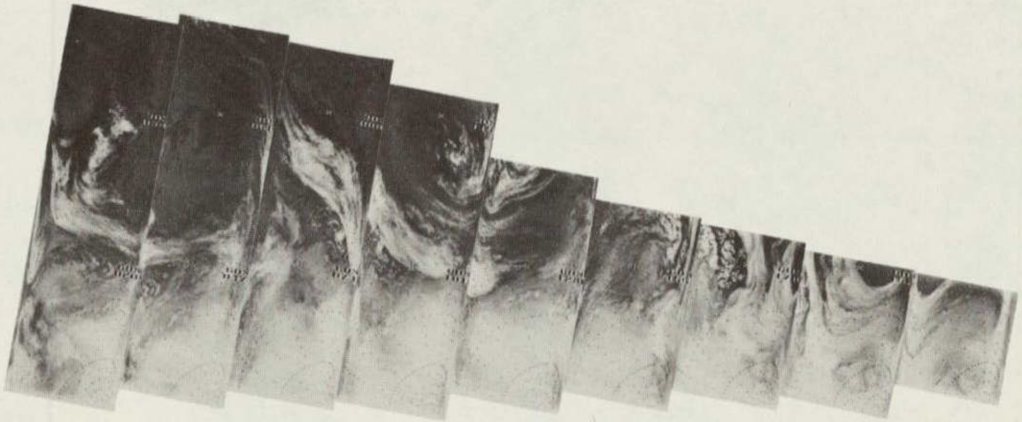
19 JULY 76

11.5 μm

5423 5422 5421 5420 5419 5418 5417 5416 5415 5414 5413 5412 5411 5410

20 JULY 76

6.7 μm



5423 5422 5421 5420 5419 5418 5417 5416 5415 5414 5413 5412 5411 5410

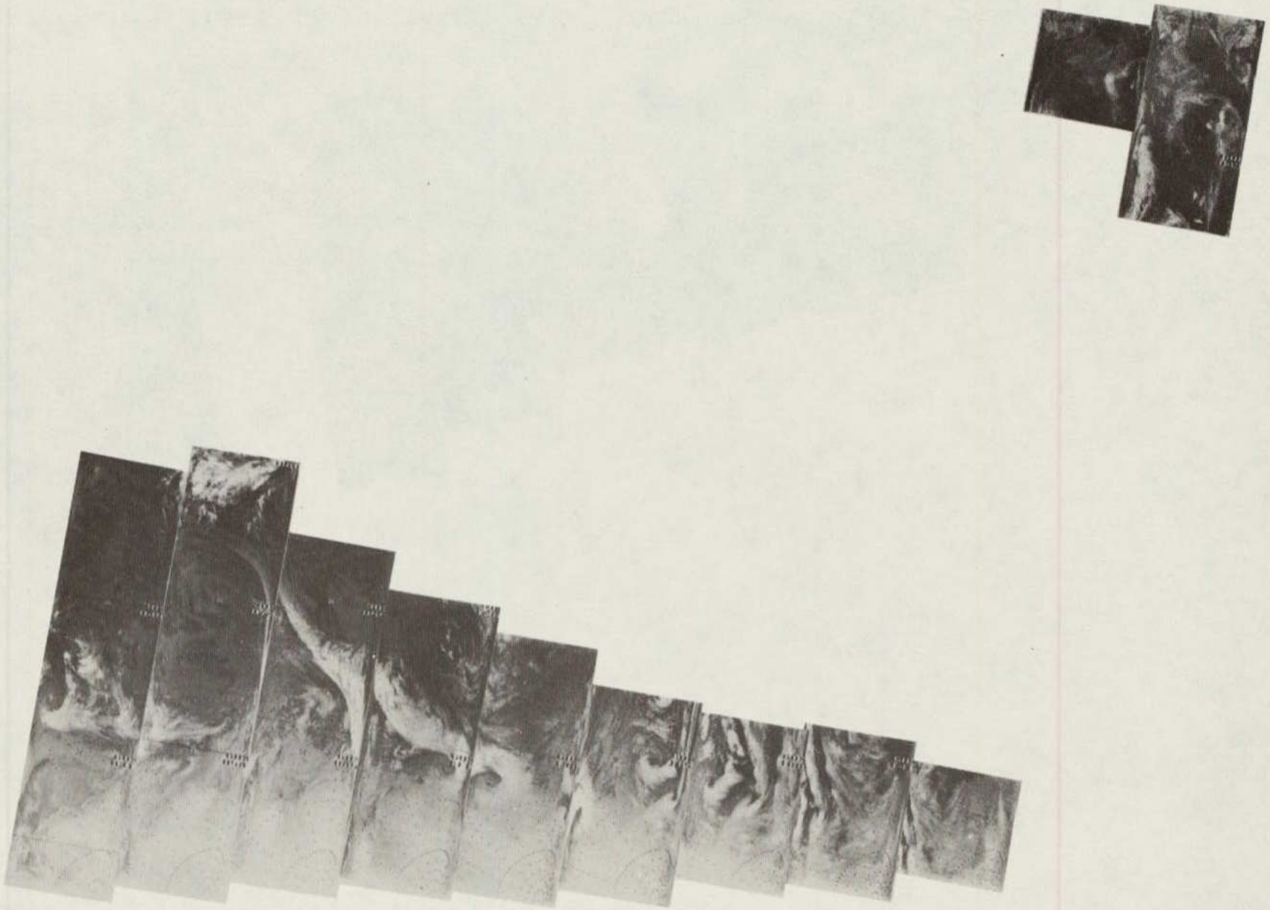
20 JULY 76

11.5 μm

5436 5435 5434 5433 5432 5431 5430 5429 5428 5427 5426 5425 5424

21 JULY 76

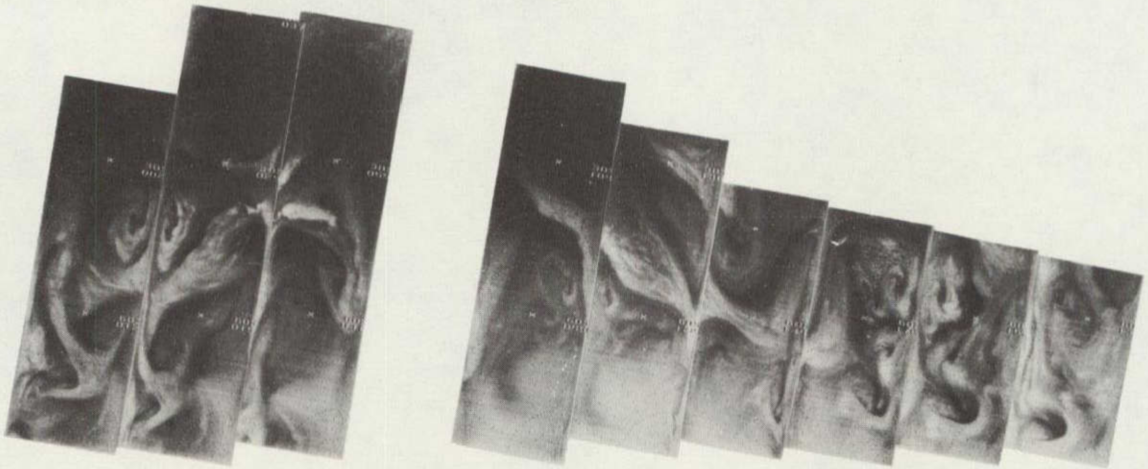
6.7 μm



5436 5435 5434 5433 5432 5431 5430 5429 5428 5427 5426 5425 5424

21 JULY 76

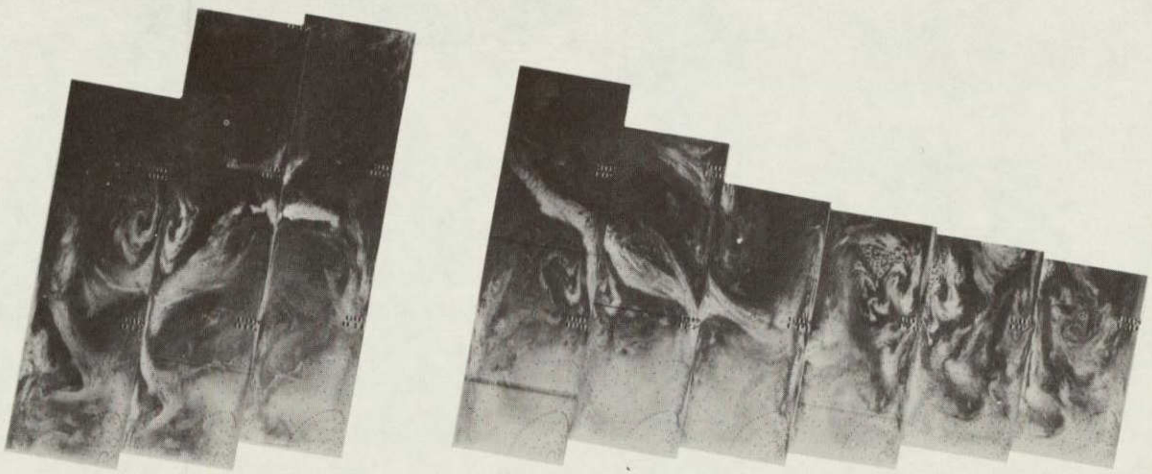
11.5 μm



5450 5449 5448 5447 5446 5445 5444 5443 5442 5441 5440 5439 5438 5437

22 JULY 76

6.7 μm



5450 5449 5448 5447 5446 5445 5444 5443 5442 5441 5440 5439 5438 5437

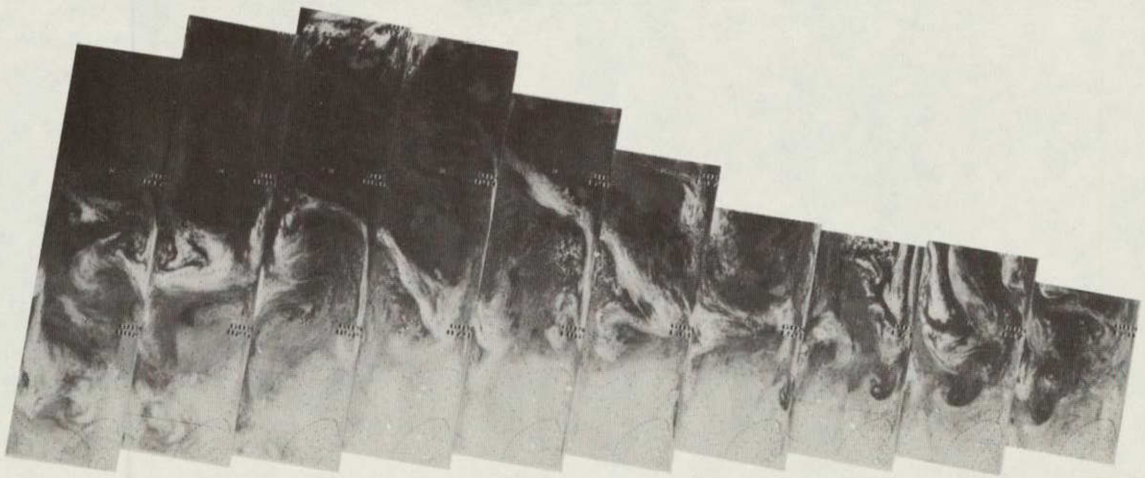
22 JULY 76

11.5 μm

5463 5462 5461 5460 5459 5458 5457 5456 5455 5454 5453 5452 5451

23 JULY 76

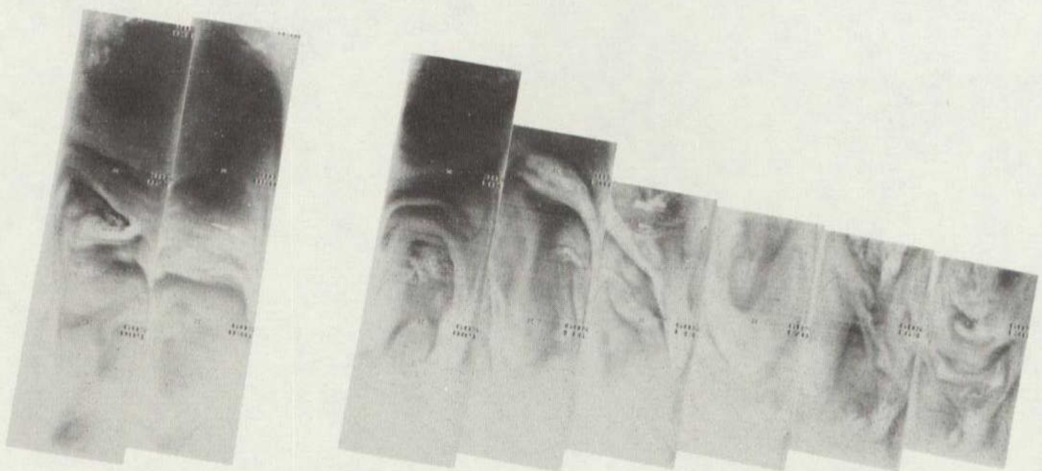
6.7 μm



5463 5462 5461 5460 5459 5458 5457 5456 5455 5454 5453 5452 5451

23 JULY 76

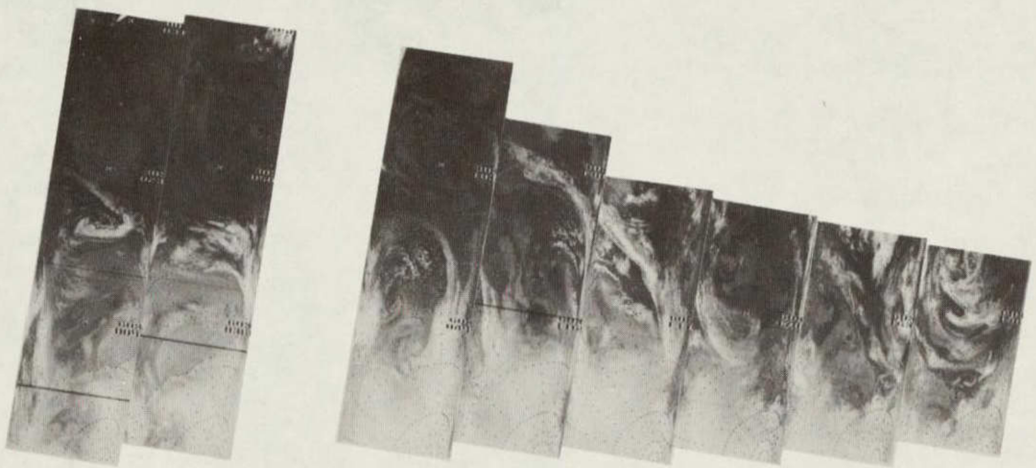
11.5 μm



5476 5475 5474 5473 5472 5471 5470 5469 5468 5467 5466 5465 5464

24 JULY 76

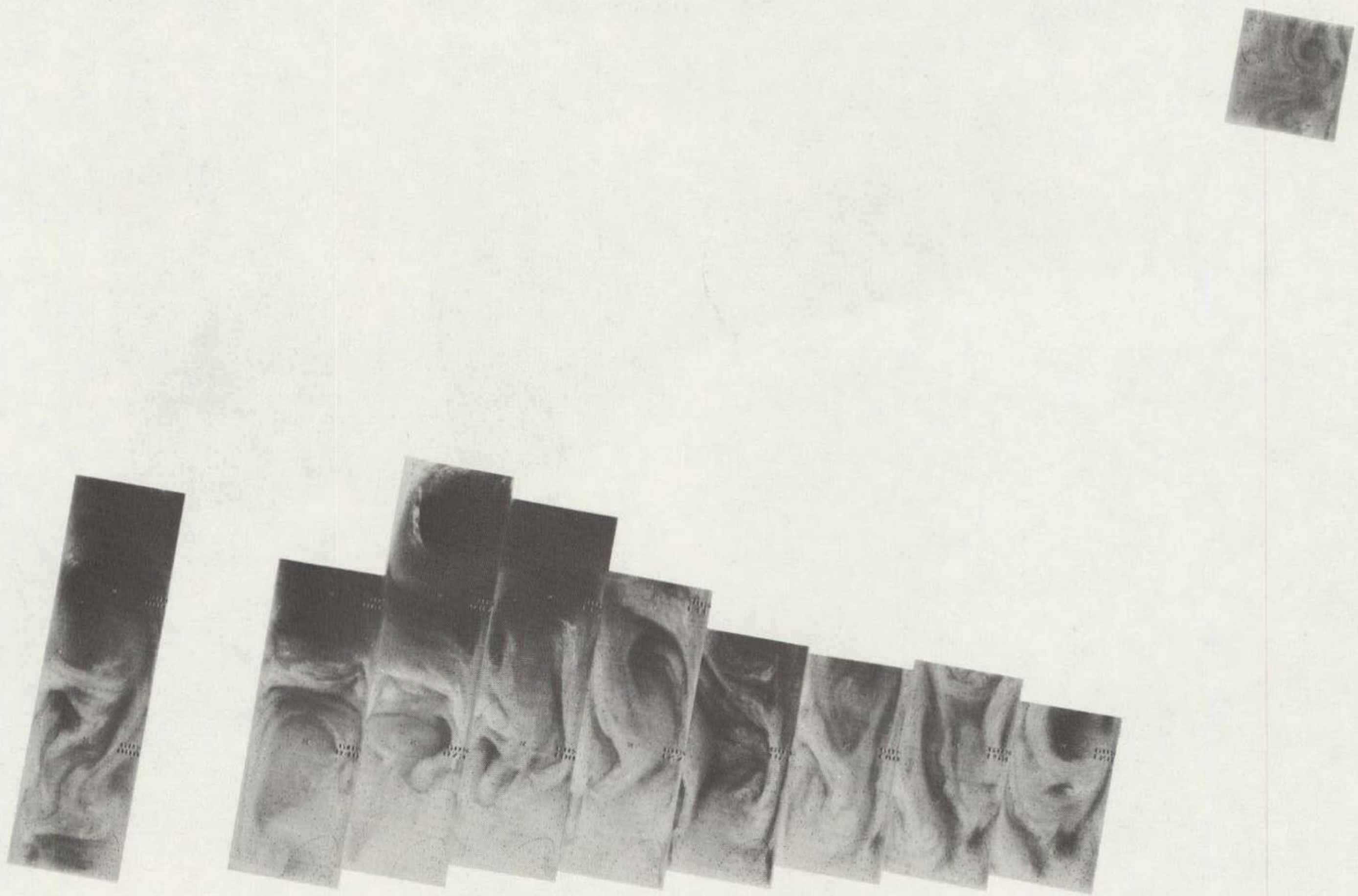
6.7 μm



5476 5475 5474 5473 5472 5471 5470 5469 5468 5467 5466 5465 5464

24 JULY 76

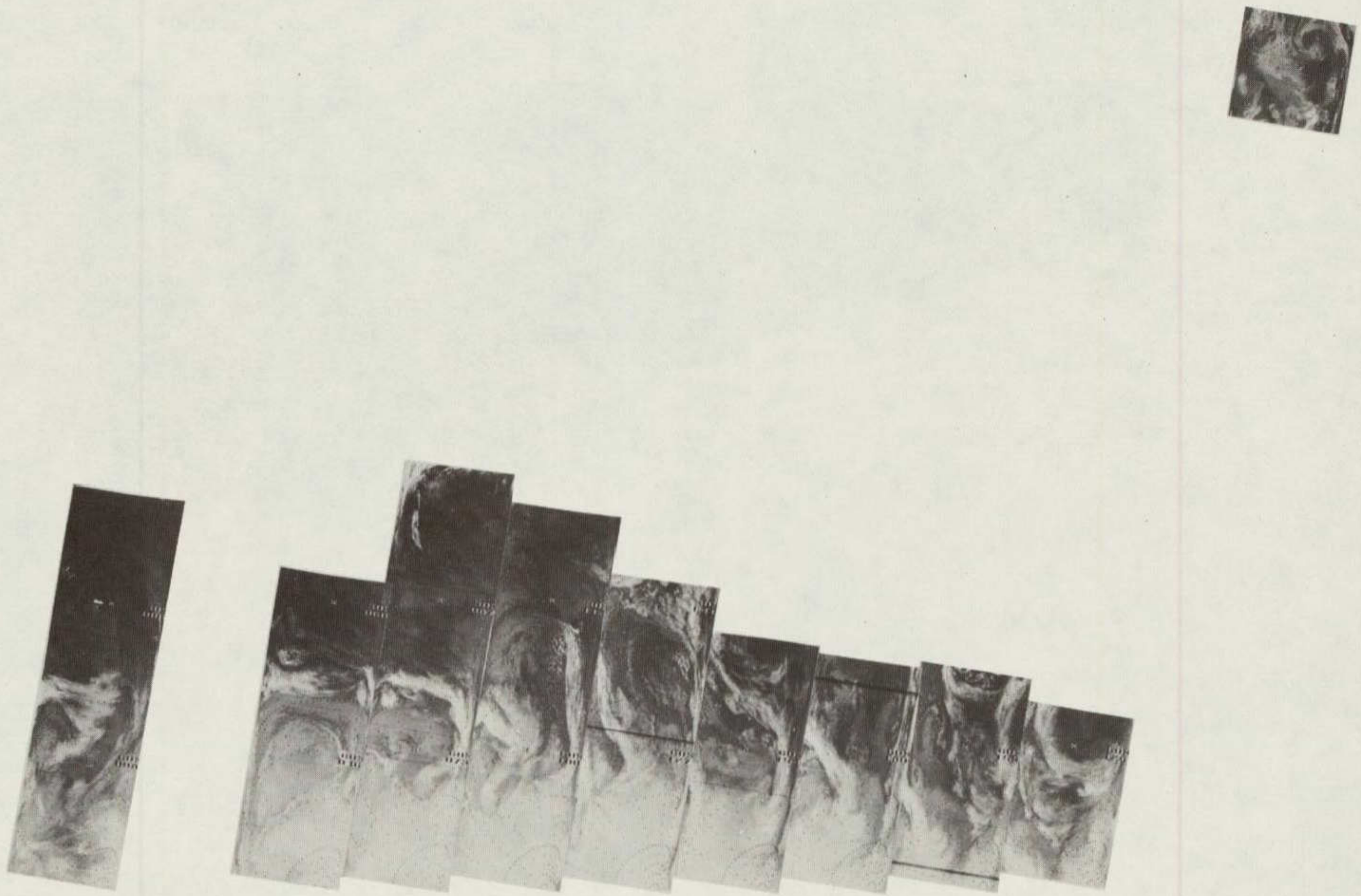
11.5 μm



5490 5489 5488 5487 5486 5485 5484 5483 5482 5481 5480 5479 5478 5477

25 JULY 76

6.7 μm



5490 5489 5488 5487 5486 5485 5484 5483 5482 5481 5480 5479 5478 5477

25 JULY 76

11.5 μm

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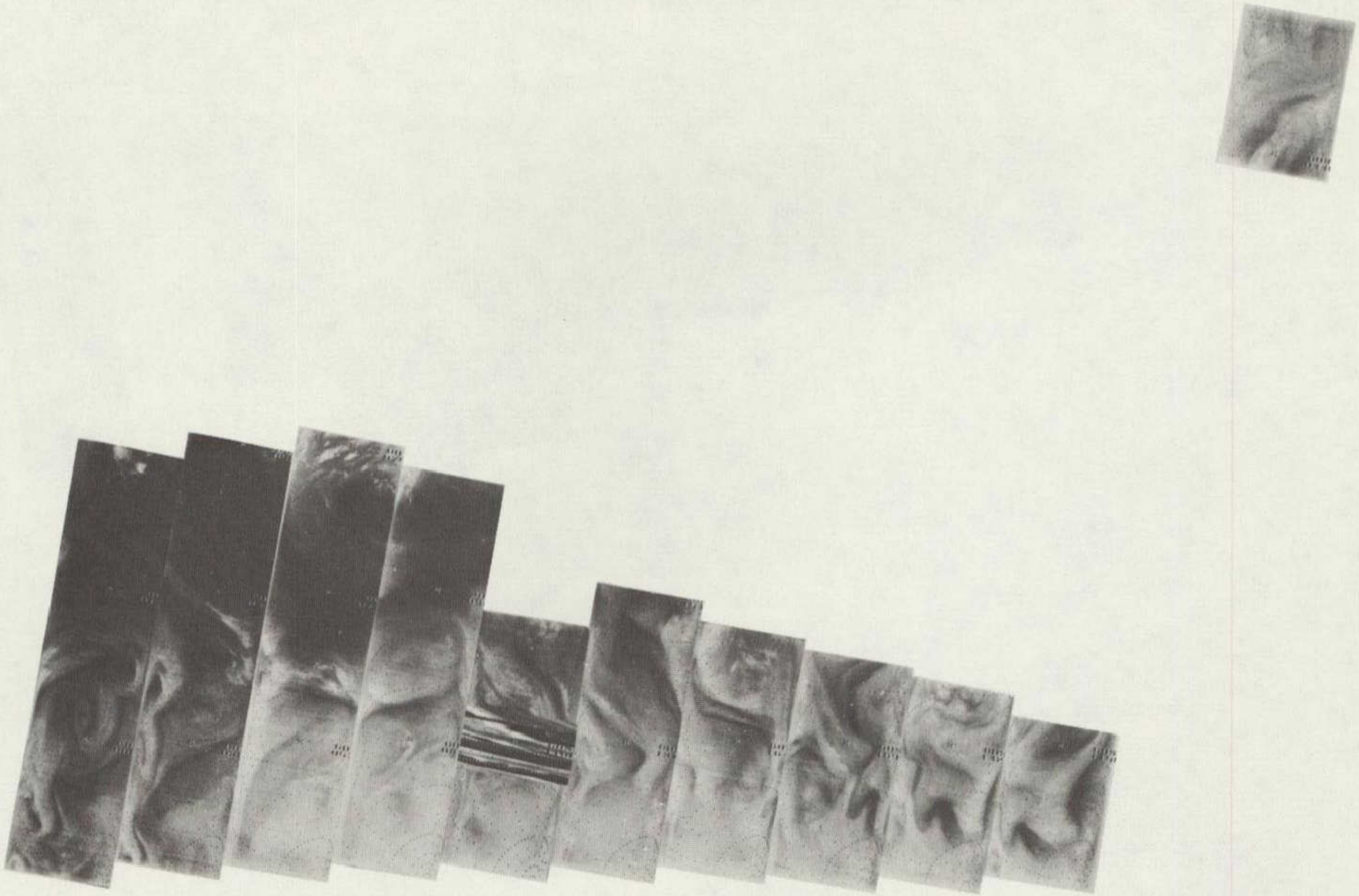
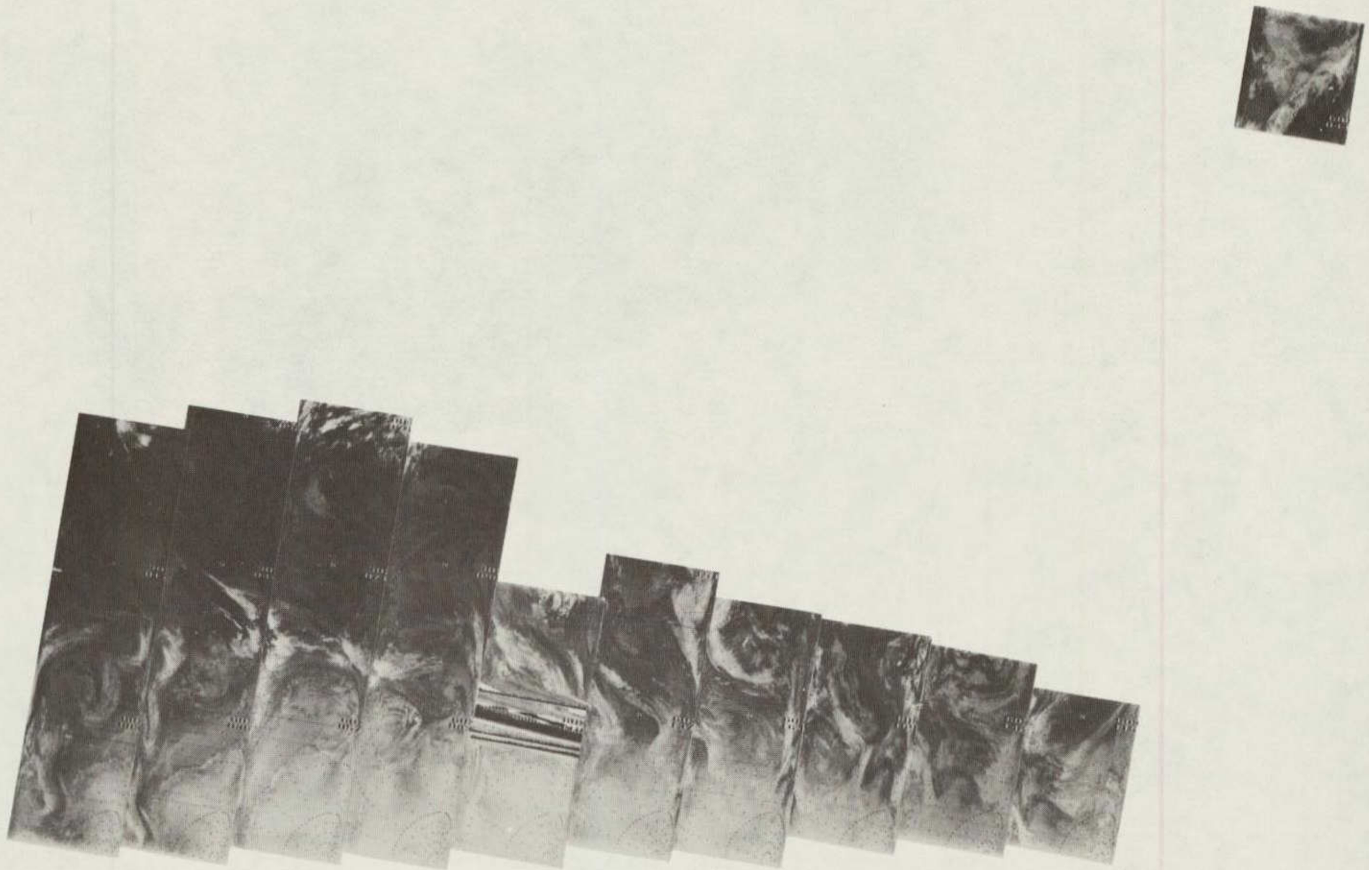


5503 5502 5501 5500 5499 5498 5497 5496 5495 5494 5493 5492 5491

26 JULY 76

6.7 μm



5503 5502 5501 5500 5499 5498 5497 5496 5495 5494 5493 5492 5491

26 JULY 76

11.5 μm

5516 5515 5514 5513 5512 5511 5510 5509 5508 5507 5506 5505 5504

27 JULY 76

6.7 μm

5516 5515 5514 5513 5512 5511 5510 5509 5508 5507 5506 5505 5504

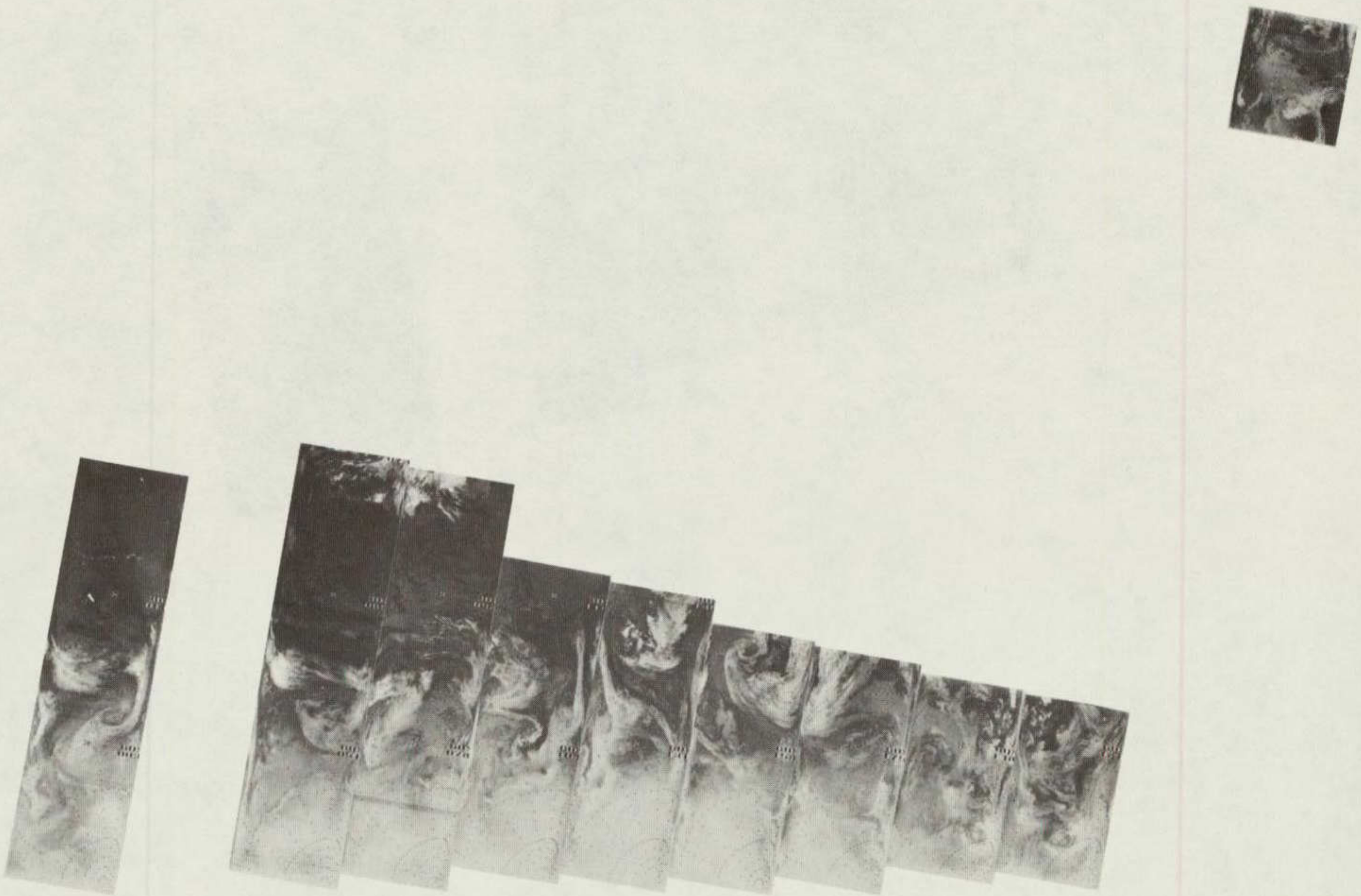
27 JULY 76

11.5 μm

5530 5529 5528 5527 5526 5525 5524 5523 5522 5521 5520 5519 5518 5517

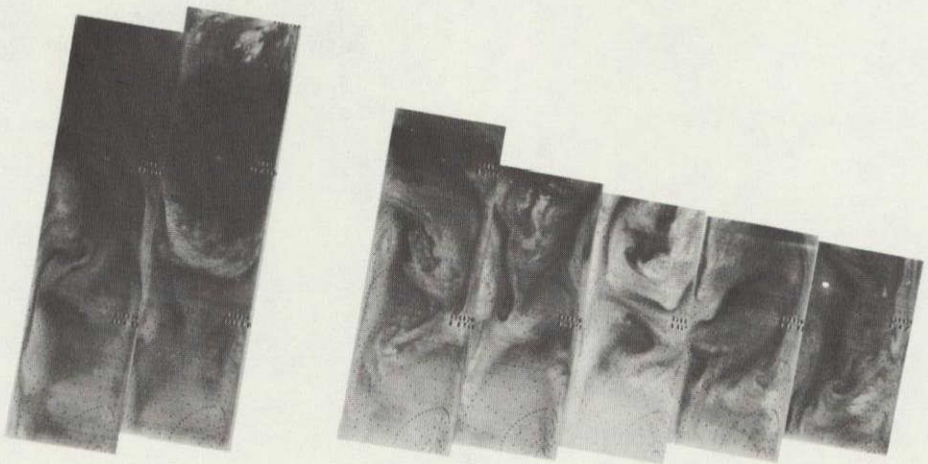
28 JULY 76

6.7 μm



28 JULY 76

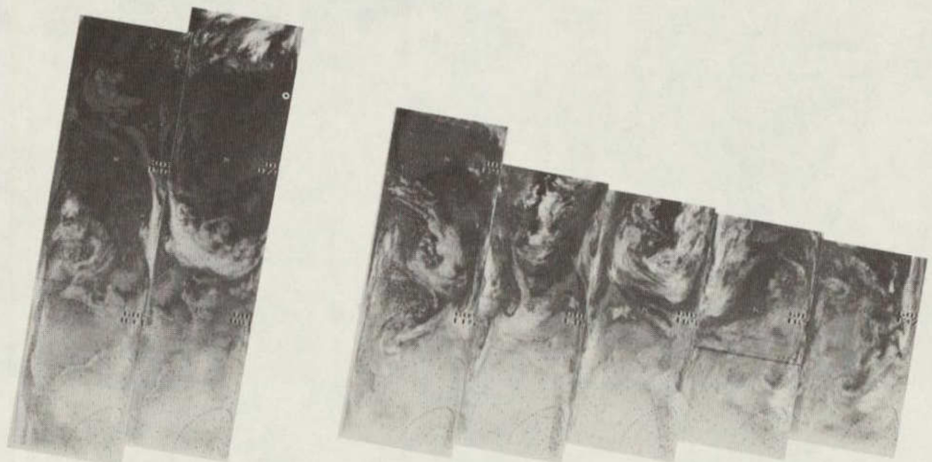
11.5 μm



5543 5542 5541 5540 5539 5538 5537 5536 5535 5534 5533 5532 5531

29 JULY 76

6.7 μm



5543 5542 5541 5540 5539 5538 5537 5536 5535 5534 5533 5532 5531

29 JULY 76

11.5 μm

5557 5556 5555 5554 5553 5552 5551 5550 5549 5548 5547 5546 5545 5544

30 JULY 76

6.7 μm

5557 5556 5555 5554 5553 5552 5551 5550 5549 5548 5547 5546 5545 5544

30 JULY 76

11.5 μm

5570 5569 5568 5567 5566 5565 5564 5563 5562 5561 5560 5559 5558

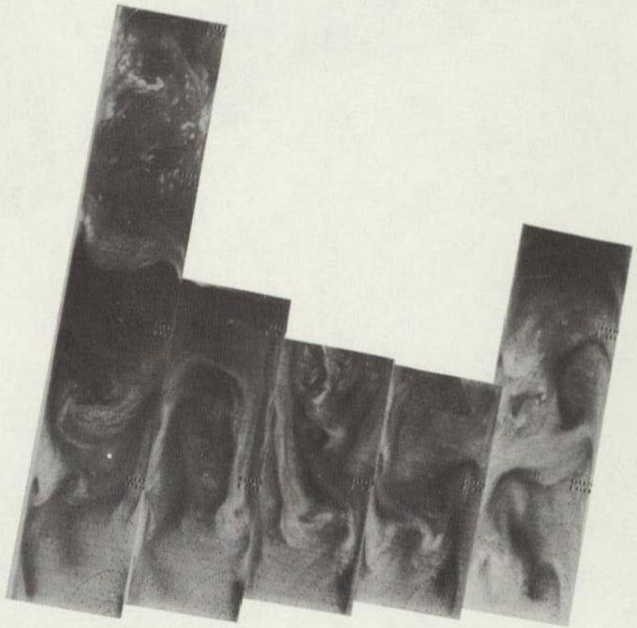
31 JULY 76

6.7 μm

5570 5569 5568 5567 5566 5565 5564 5563 5562 5561 5560 5559 5558

31 JULY 76

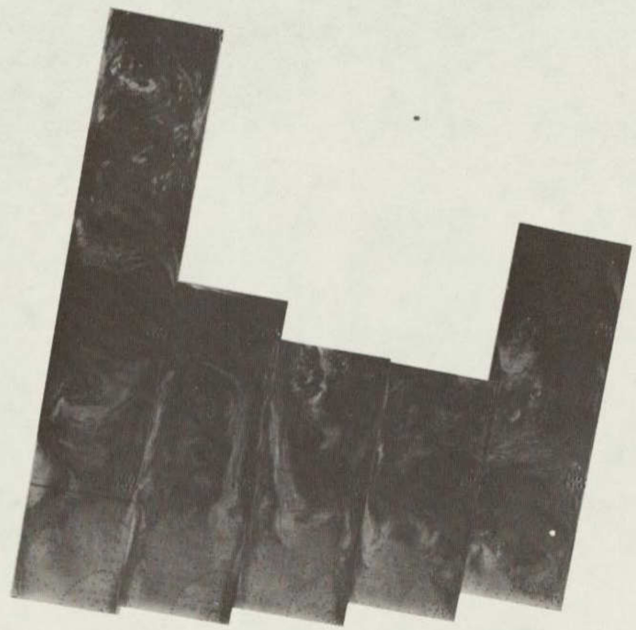
11.5 μm



5583 5582 5581 5580 5579 5578 5577 5576 5575 5574 5573 5572 5571

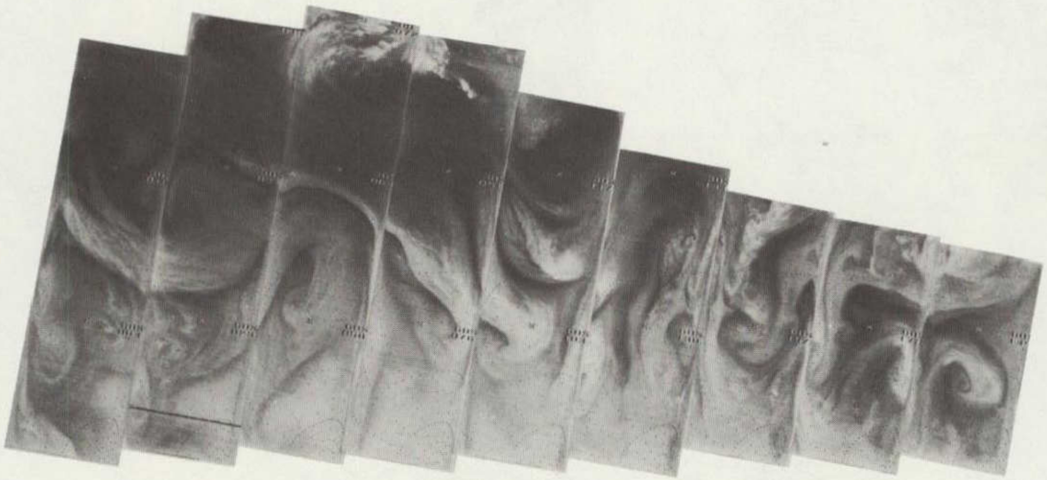
1 AUG 76

6.7 μm



1 AUG 76

11.5 μm



5597 5596 5595 5594 5593 5592 5591 5590 5589 5588 5587 5586 5585 5584

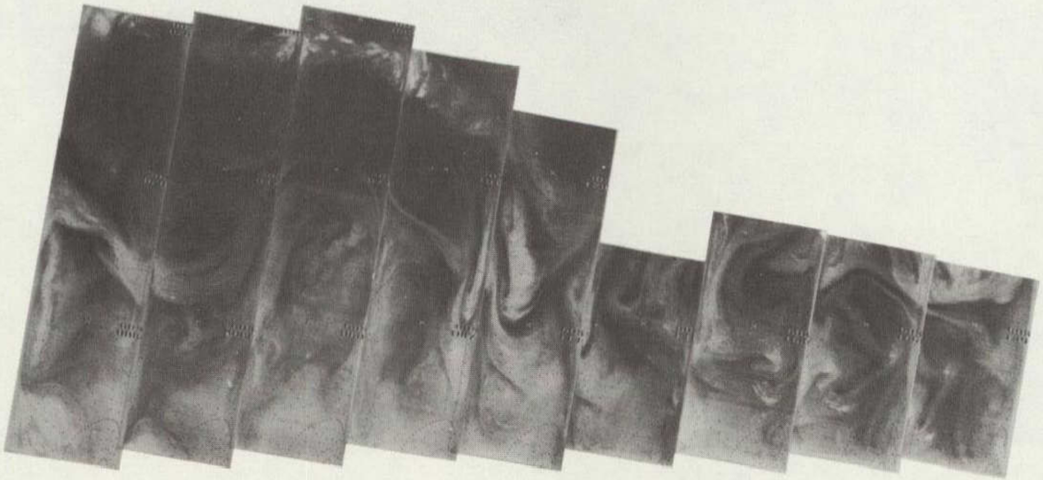
2 AUG 76

6.7 μm

5597 5596 5595 5594 5593 5592 5591 5590 5589 5588 5587 5586 5585 5584

2 AUG 76

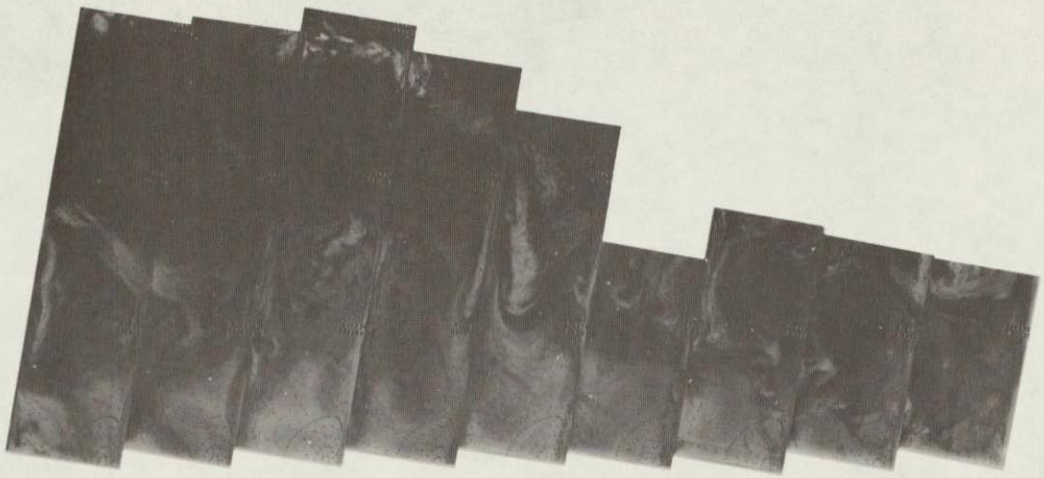
11.5 μm



5610 5609 5608 5607 5606 5605 5604 5603 5602 5601 5600 5599 5598

3 AUG 76

6.7 μm



5610 5609 5608 5607 5606 5605 5604 5603 5602 5601 5600 5599 5598

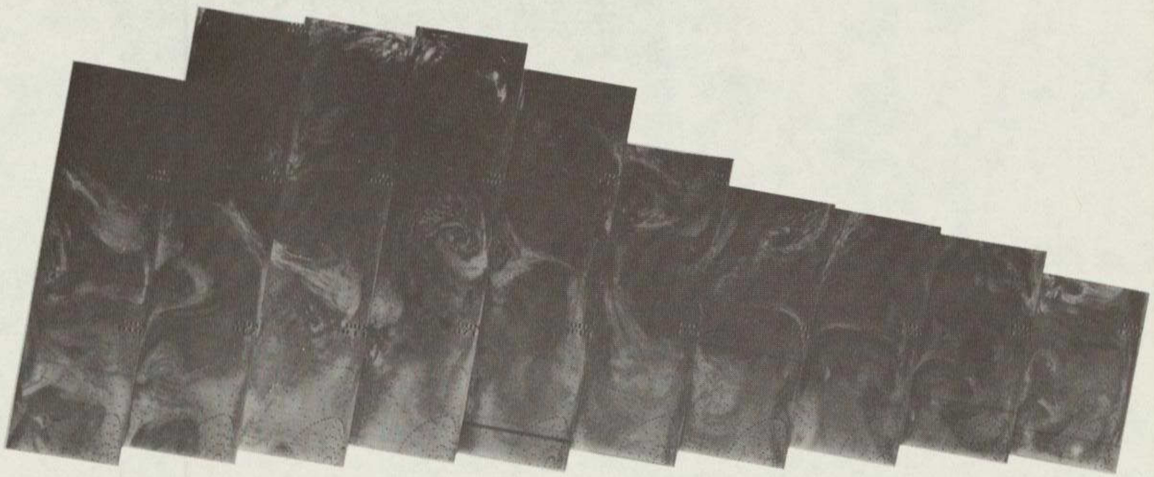
3 AUG 76

11.5 μm

5624 5623 5622 5621 5620 5619 5618 5617 5616 5615 5614 5613 5612 5611

4 AUG 76

6.7 μm



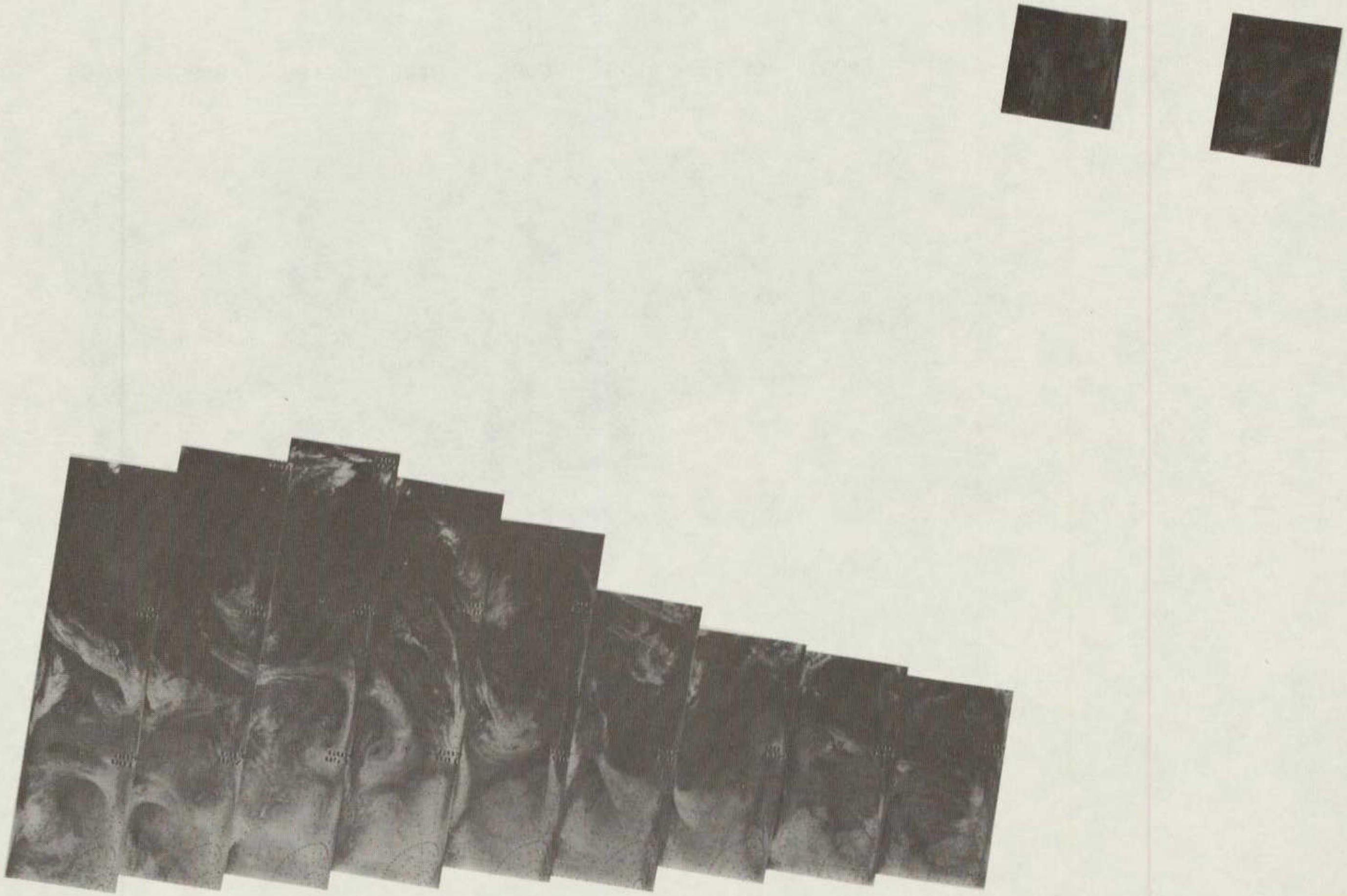
4 AUG 76

11.5 μm

5637 5636 5635 5634 5633 5632 5631 5630 5629 5628 5627 5626 5625

5 AUG 76

6.7 μm



5637 5636 5635 5634 5633 5632 5631 5630 5629 5628 5627 5626 5625

5 AUG 76

11.5 μm

5650 5649 5648 5647 5646 5645 5644 5643 5642 5641 5640 5639 5638

6 AUG 76

6.7 μm

5650 5649 5648 5647 5646 5645 5644 5643 5642 5641 5640 5639 5638

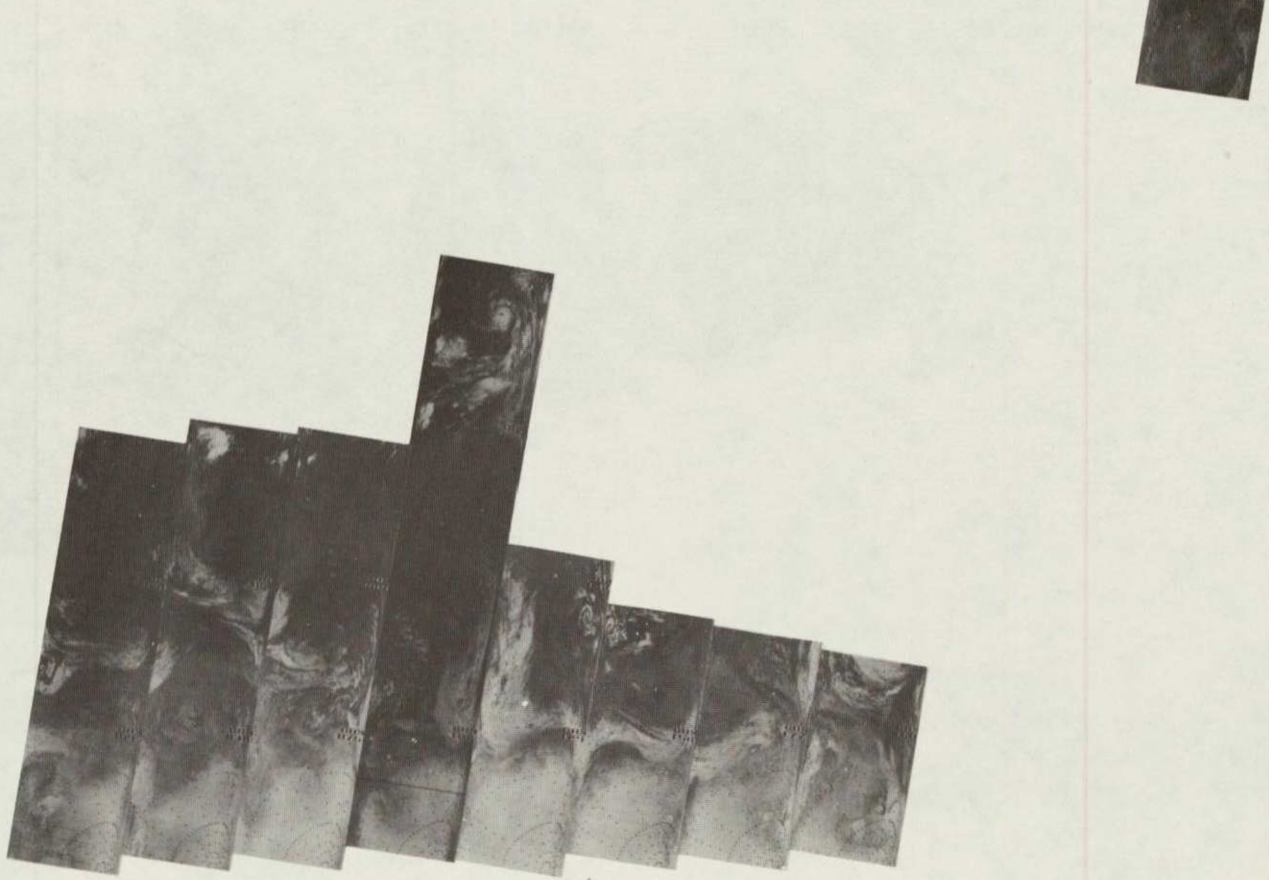
6 AUG 76

11.5 μm

5664 5663 5662 5661 5660 5659 5658 5657 5656 5655 5654 5653 5652 5651

7 AUG 76

6.7 μm



5664 5663 5662 5661 5660 5659 5658 5657 5656 5655 5654 5653 5652 5651

7 AUG 76

11.5 μm

5677 5676 5675 5674 5673 5672 5671 5670 5669 5668 5667 5666 5665

8 AUG 76

6.7 μm

5677 5676 5675 5674 5673 5672 5671 5670 5669 5668 5667 5666 5665

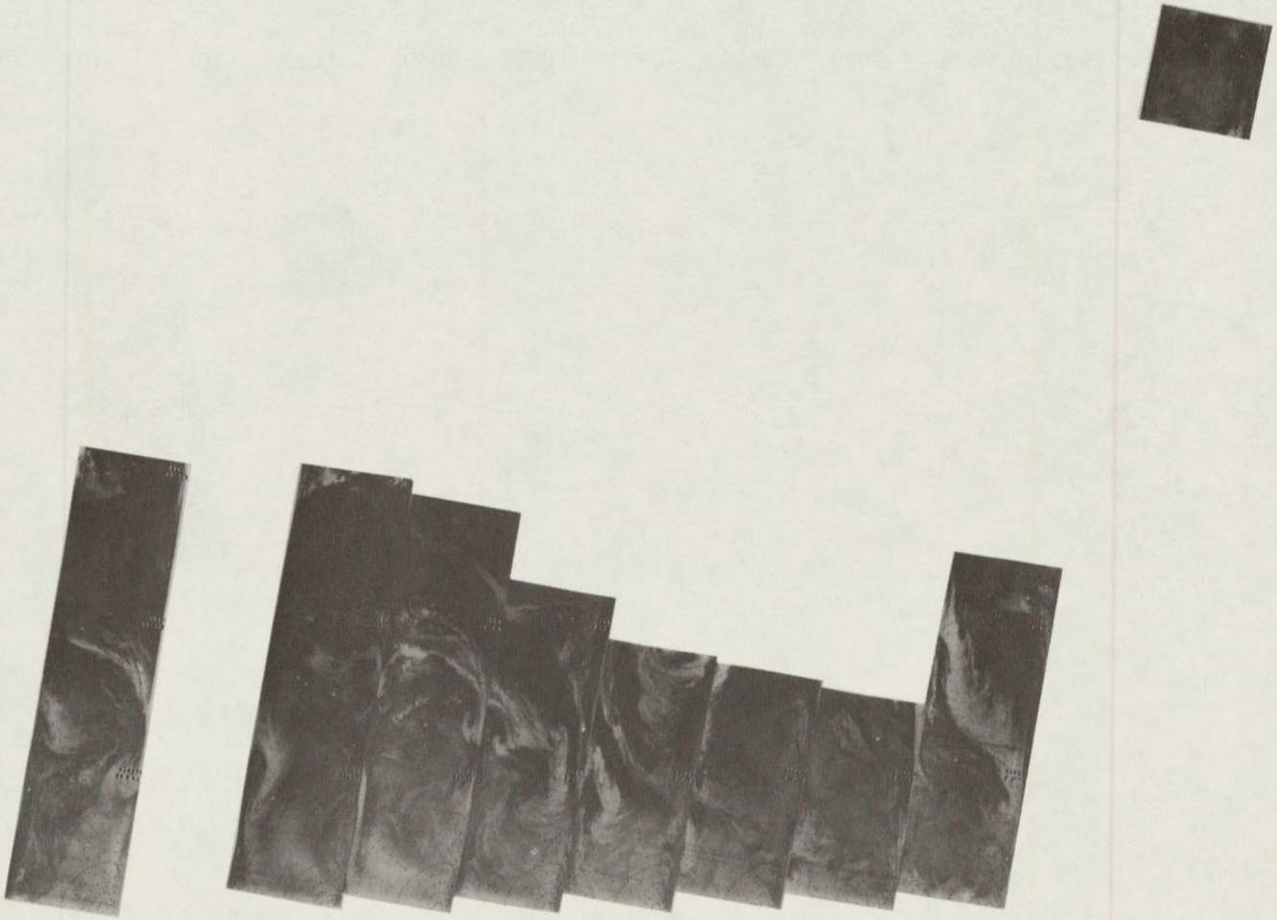
8 AUG 76

11.5 μm

5691 5690 5689 5688 5687 5686 5685 5684 5683 5682 5681 5680 5679 5678

9 AUG 76

6.7 μm



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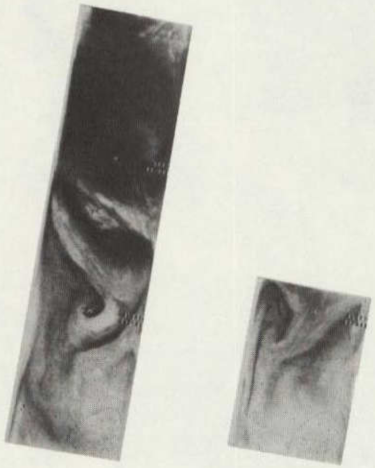
9 AUG 76

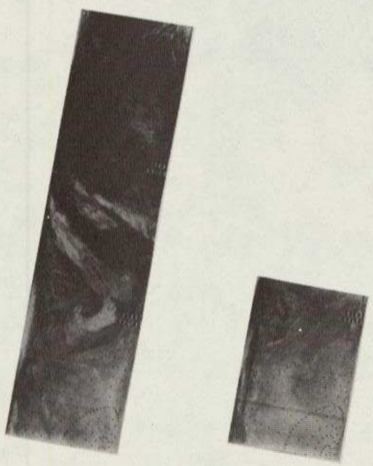
11.5 μm



5704 5703 5702 5701 5700 5699 5698 5697 5696 5695 5694 5693 5692

10 AUG 76

6.7 μm



5704 5703 5702 5701 5700 5699 5698 5697 5696 5695 5694 5693 5692

10 AUG 76

11.5 μm

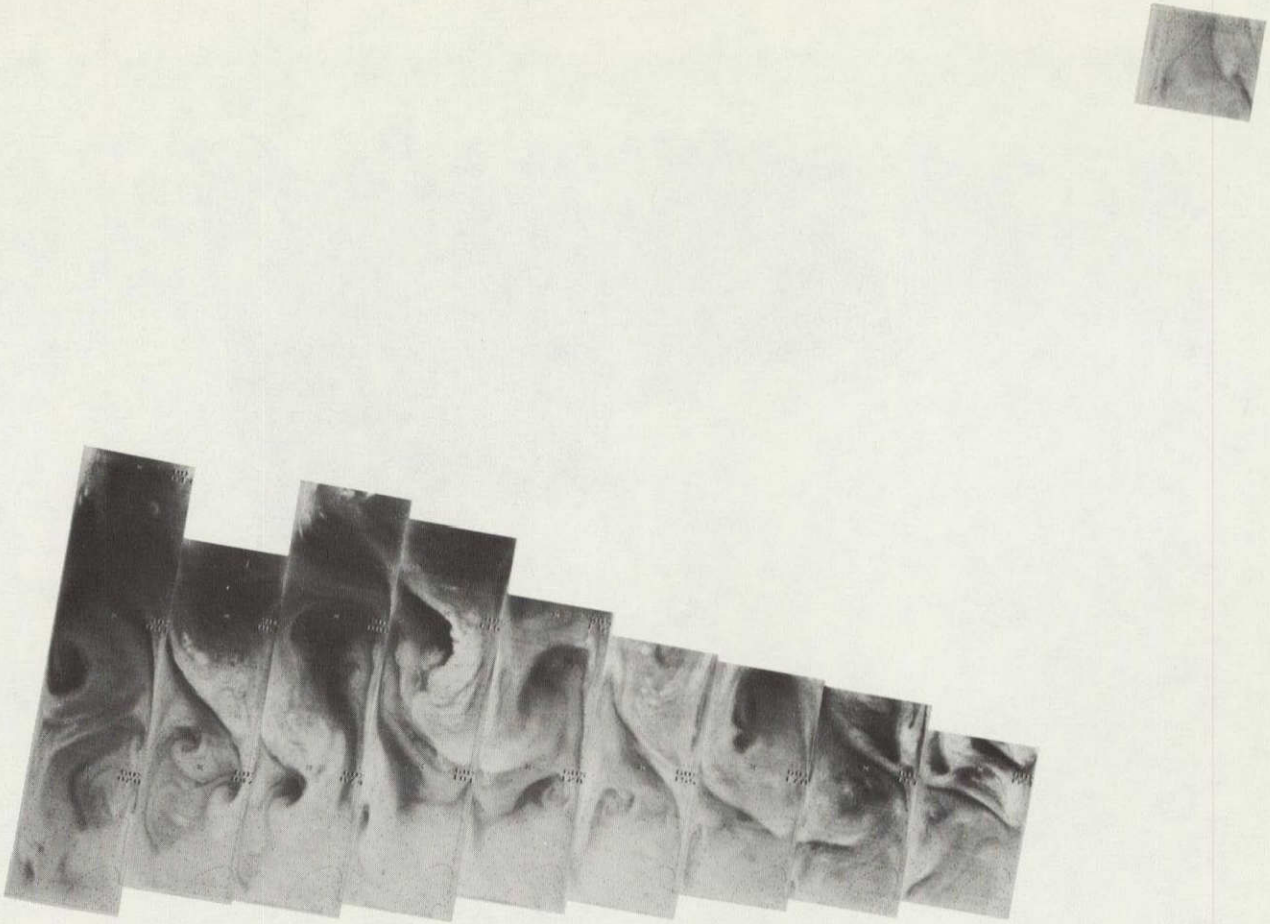
5717 5716 5715 5714 5713 5712 5711 5710 5709 5708 5707 5706 5705

11 AUG 76

6.7 μm

11 AUG 76

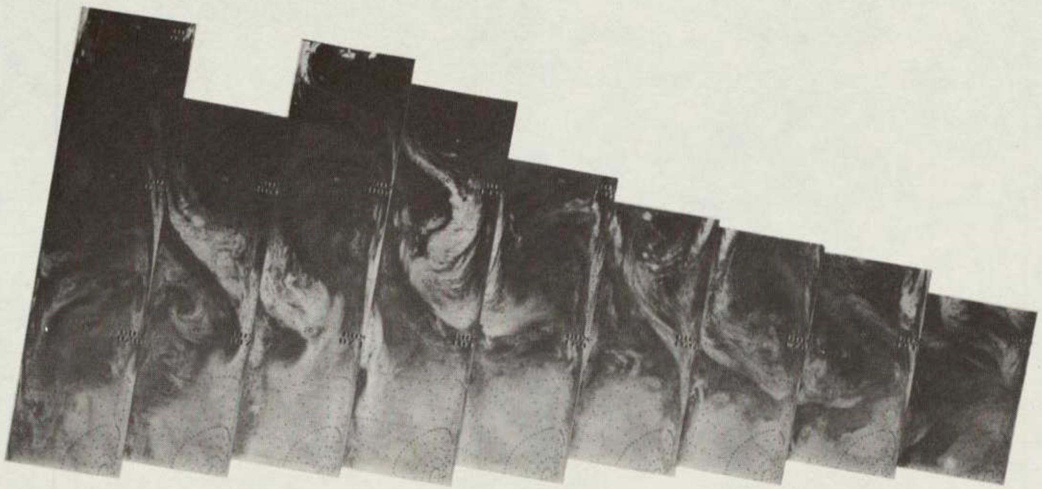
11.5 μm



5731 5730 5729 5728 5727 5726 5725 5724 5723 5722 5721 5720 5719 5718

12 AUG 76

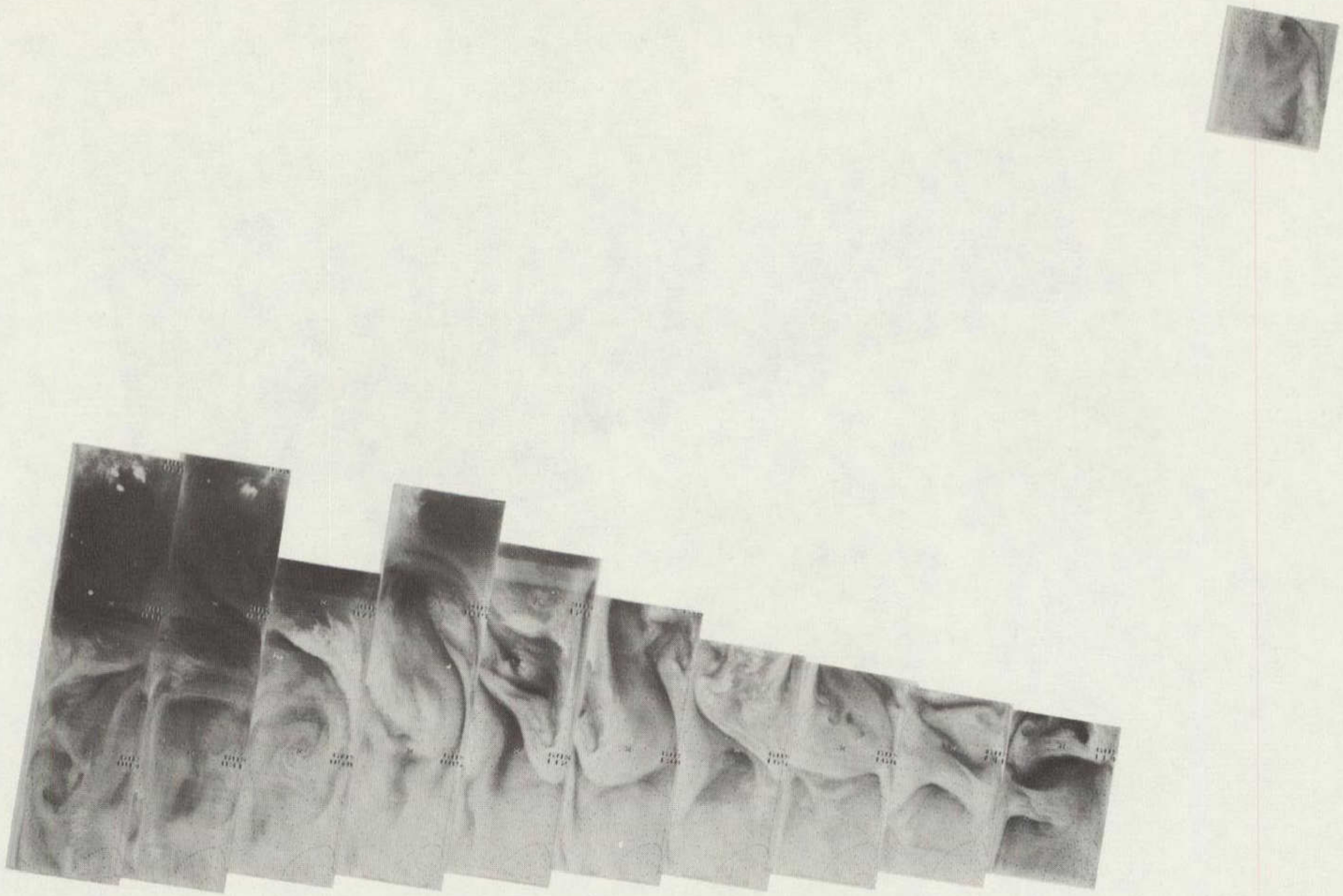
6.7 μm



5731 5730 5729 5728 5727 5726 5725 5724 5723 5722 5721 5720 5719 5718

12 AUG 76

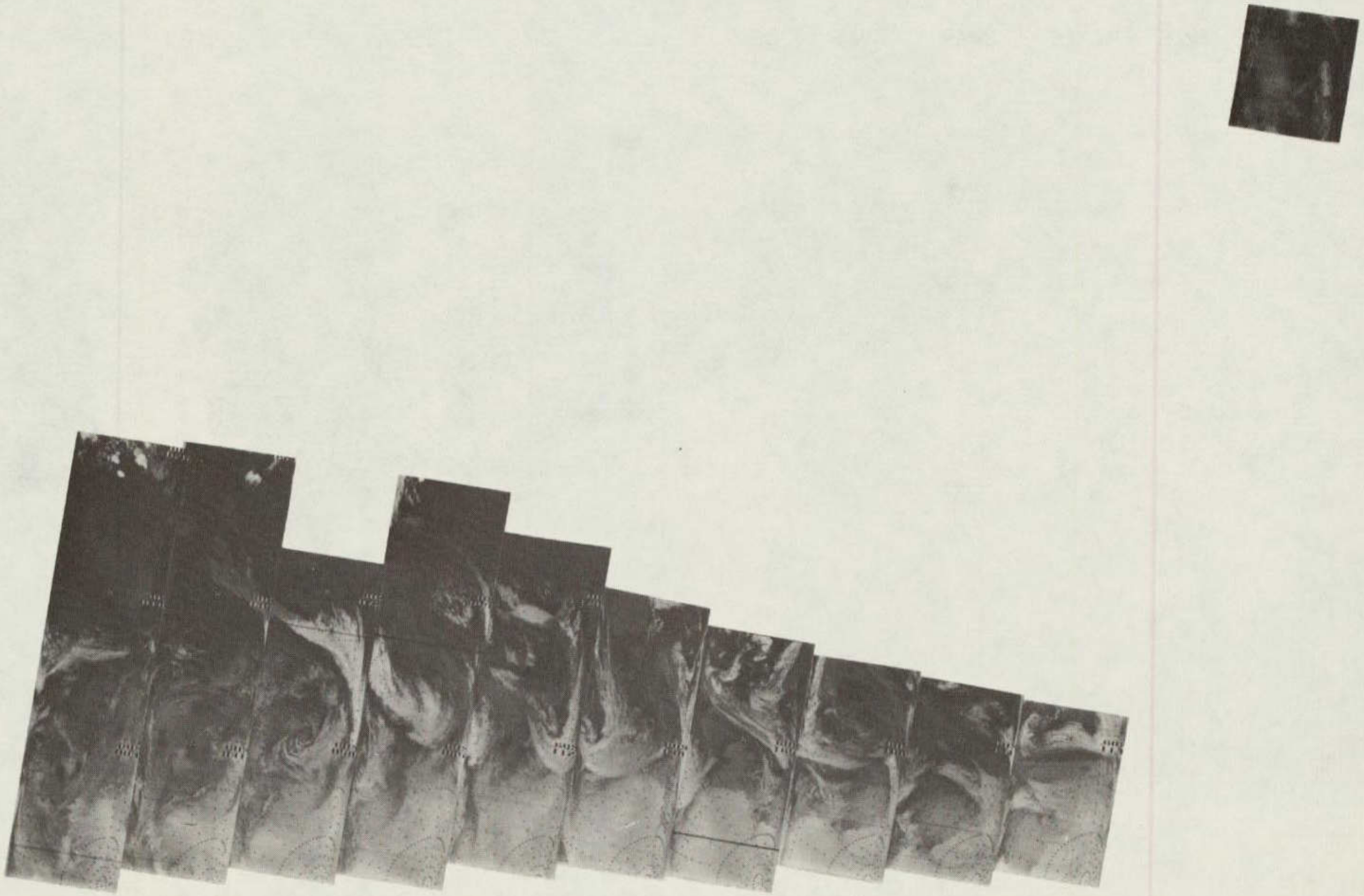
11.5 μm



5744 5743 5742 5741 5740 5739 5738 5737 5736 5735 5734 5733 5732

13 AUG 76

6.7 μm



5744 5743 5742 5741 5740 5739 5738 5737 5736 5735 5734 5733 5732

13 AUG 76

11.5 μm

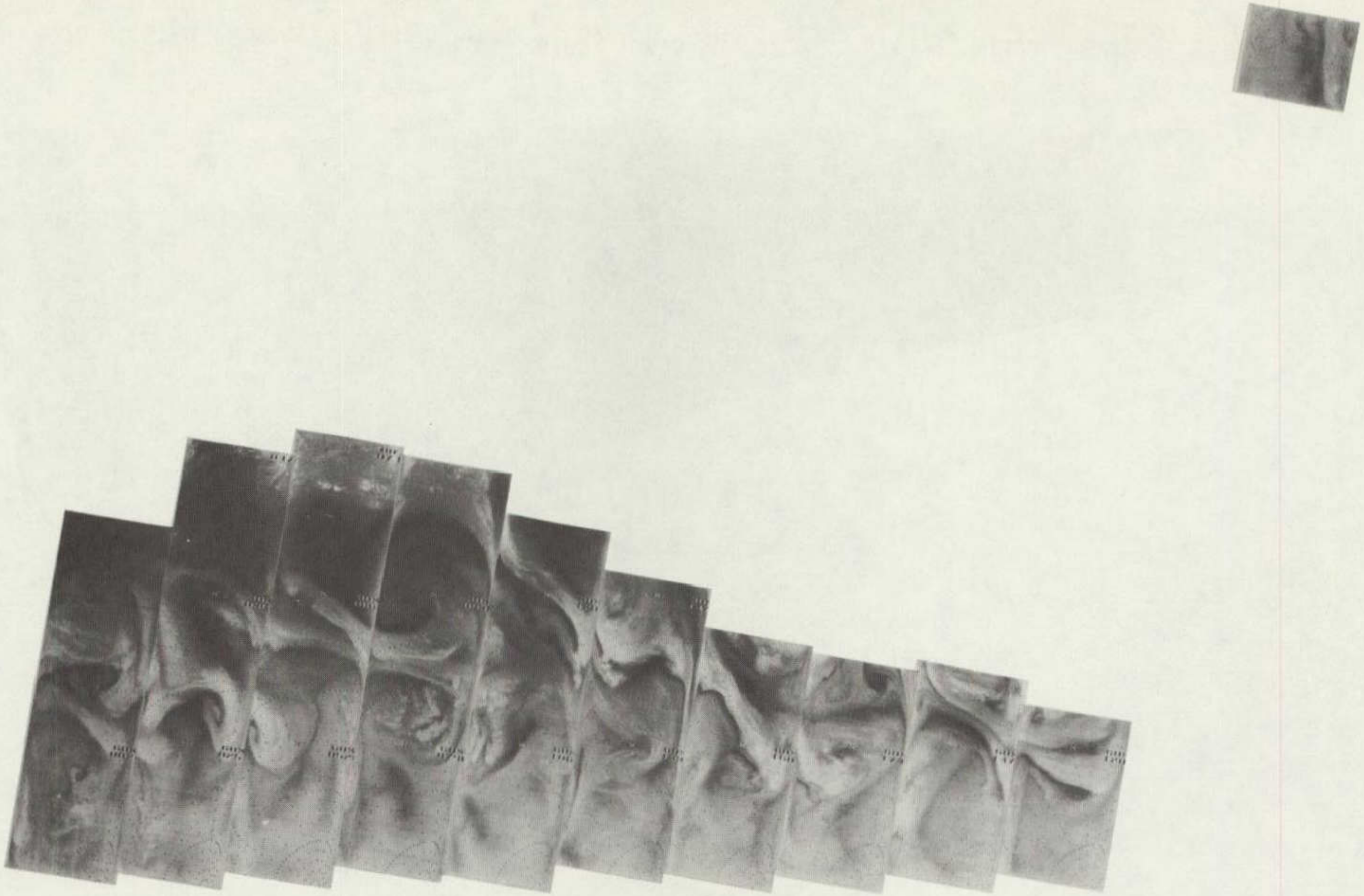
5758 5757 5756 5755 5754 5753 5752 5751 5750 5749 5748 5747 5746 5745

14 AUG 76

6.7 μm

14 AUG 76

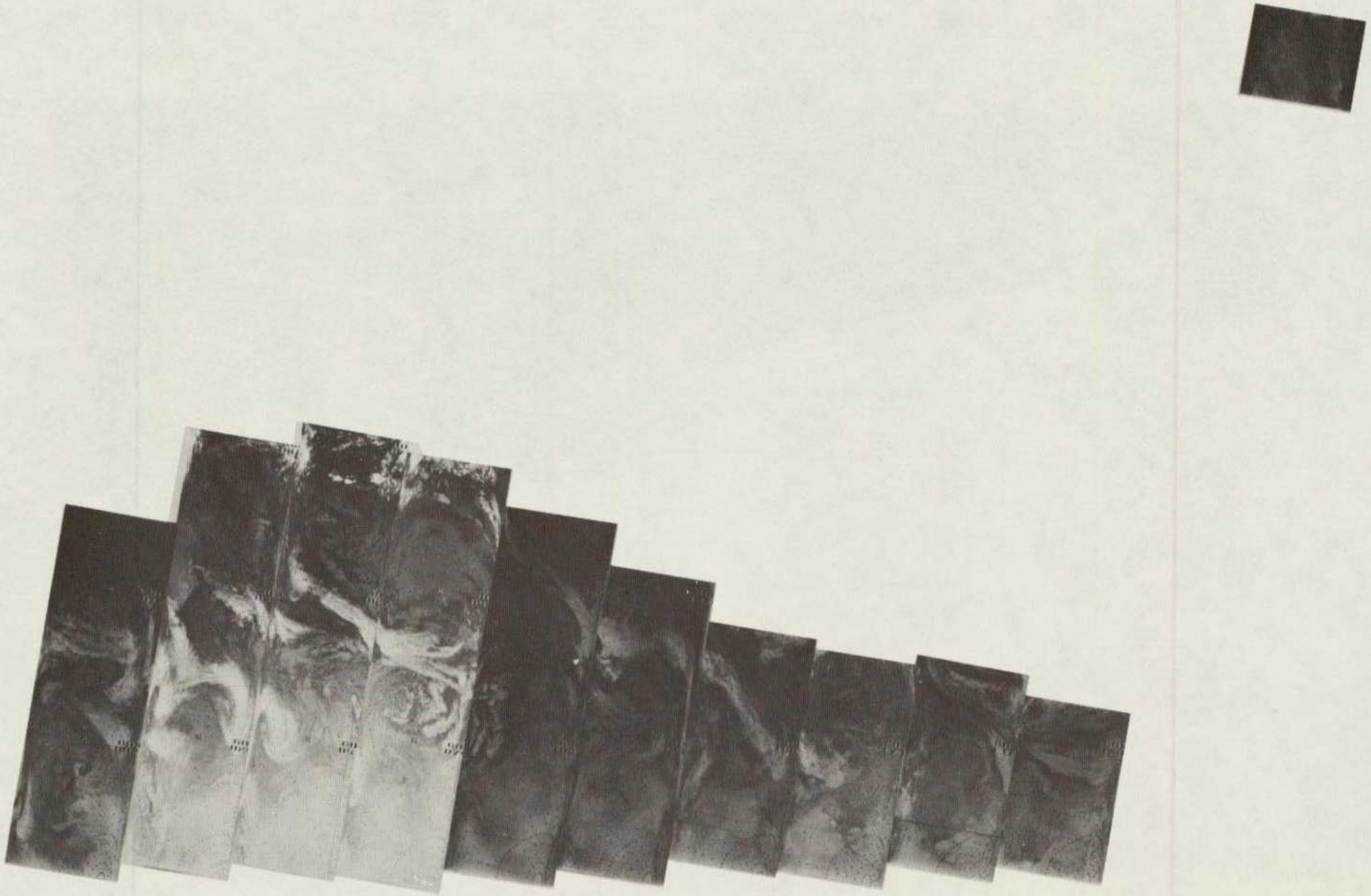
11.5 μm



5771 5770 5769 5768 5767 5766 5765 5764 5763 5762 5761 5760 5759

15 AUG 76

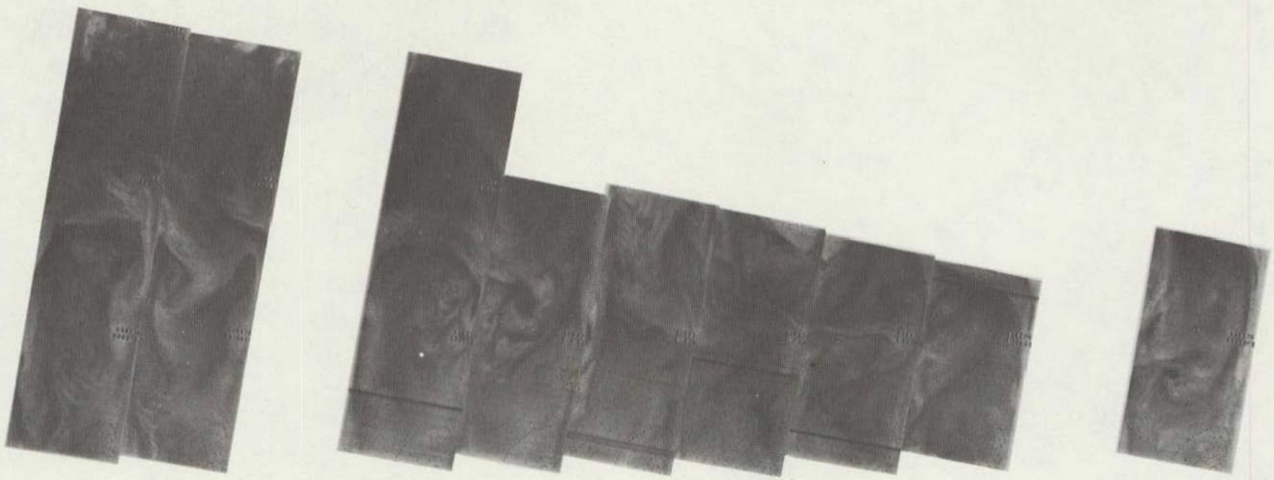
6.7 μm



5771 5770 5769 5768 5767 5766 5765 5764 5763 5762 5761 5760 5759

15 AUG 76

11.5 μm



5784 5783 5782 5781 5780 5779 5778 5777 5776 5775 5774 5773 5772

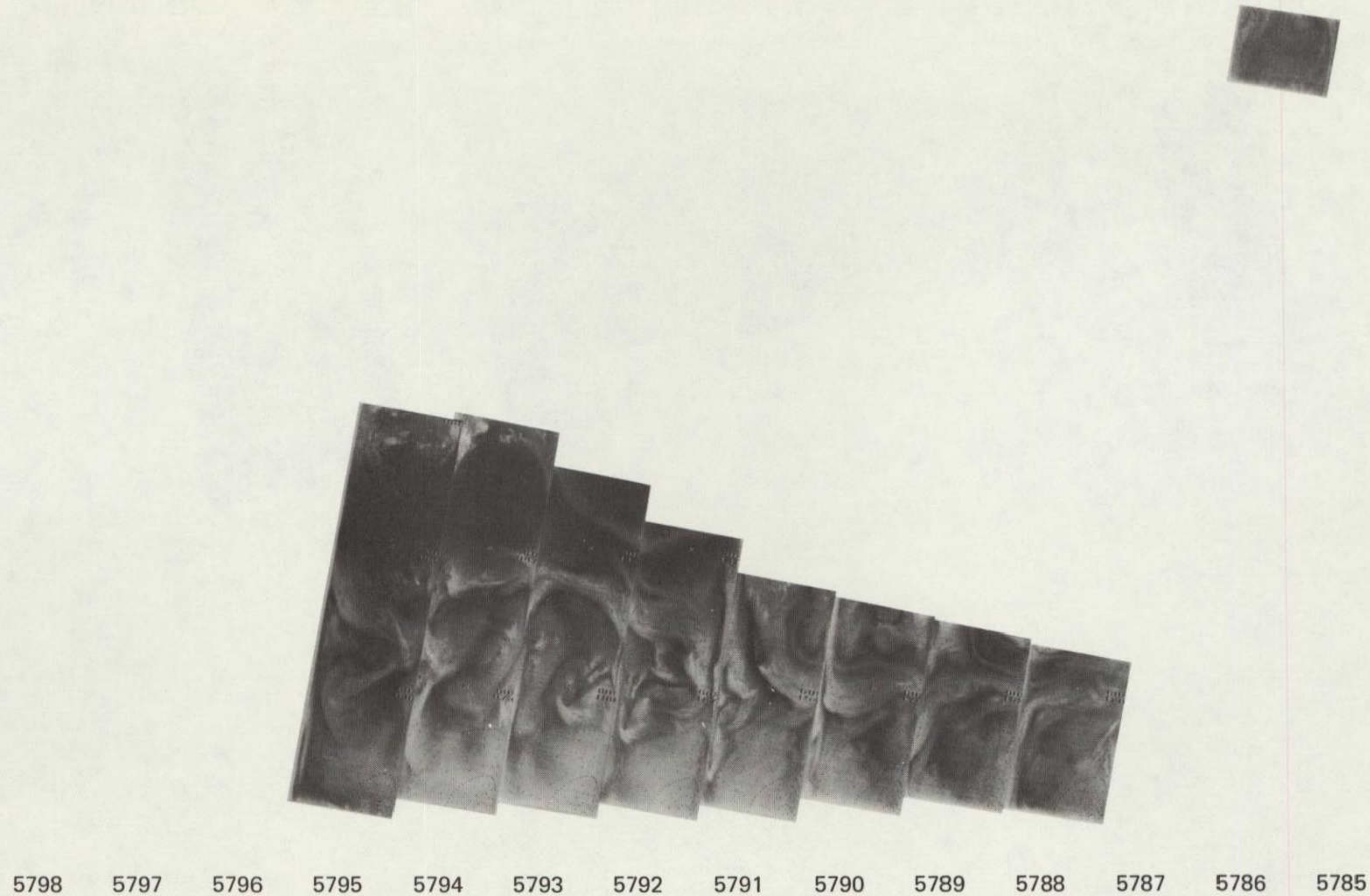
16 AUG 76

6.7 μm

5784 5783 5782 5781 5780 5779 5778 5777 5776 5775 5774 5773 5772

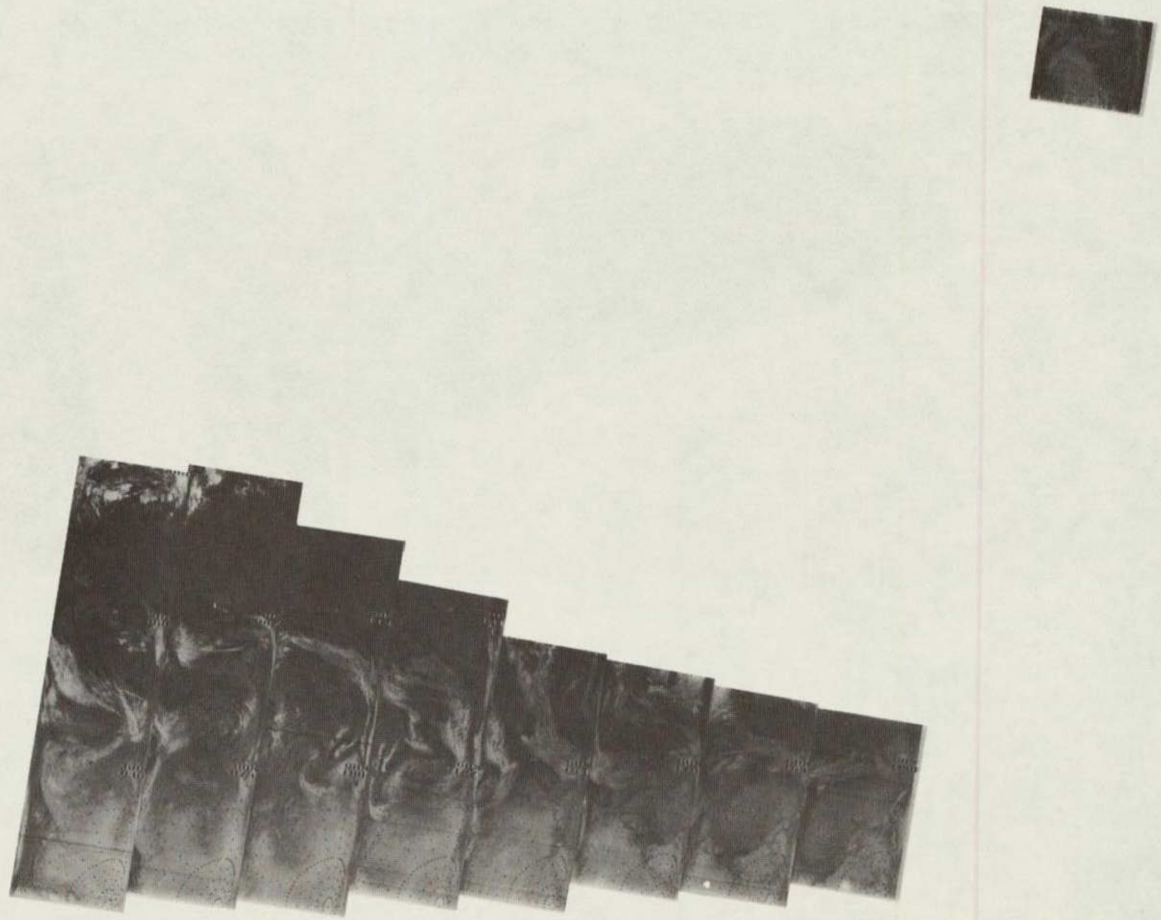
16 AUG 76

11.5 μm



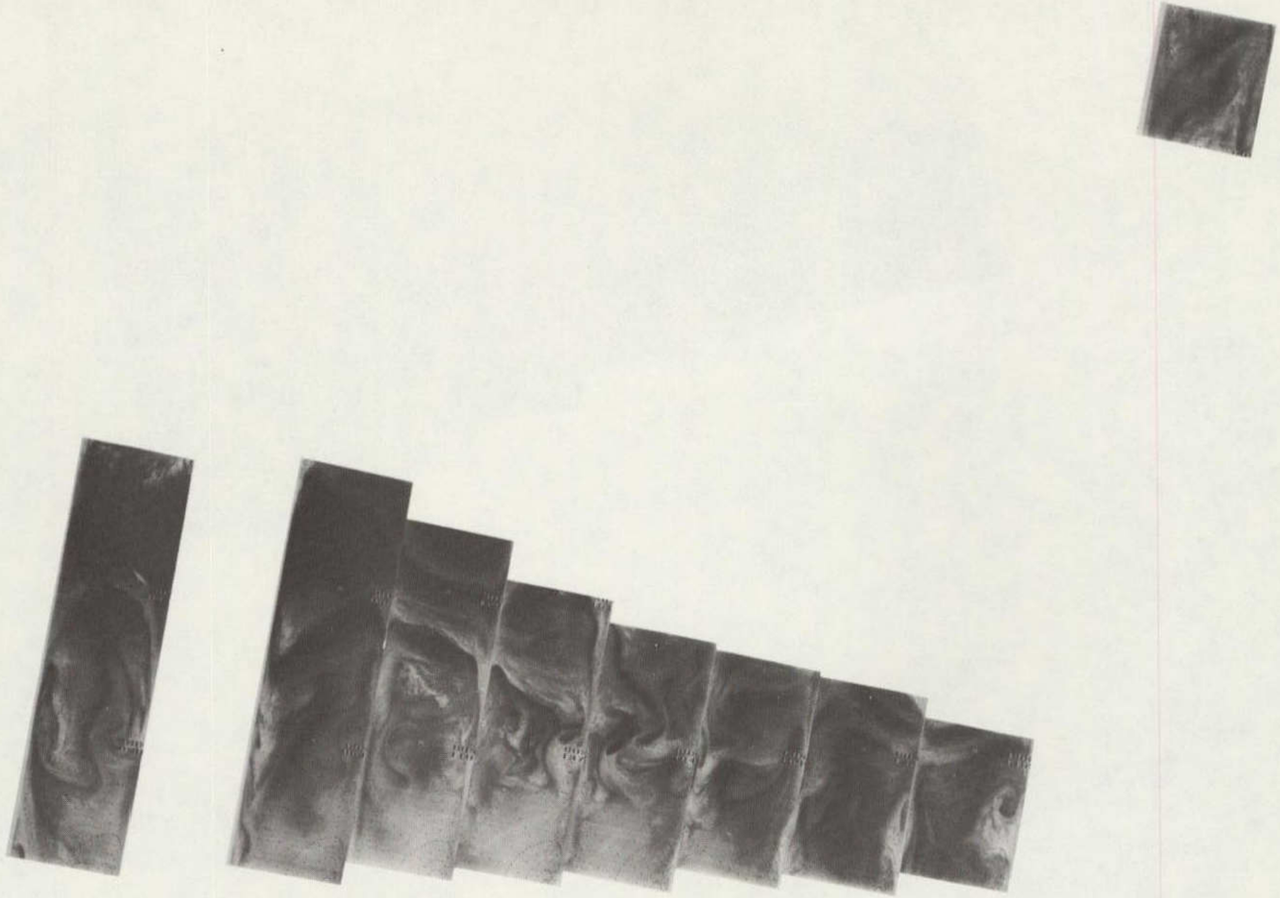
17 AUG 76

6.7 μm



17 AUG 76

11.5 μm



18 AUG 76

6.7 μm

5811 5810 5809 5808 5807 5806 5805 5804 5803 5802 5801 5800 5799

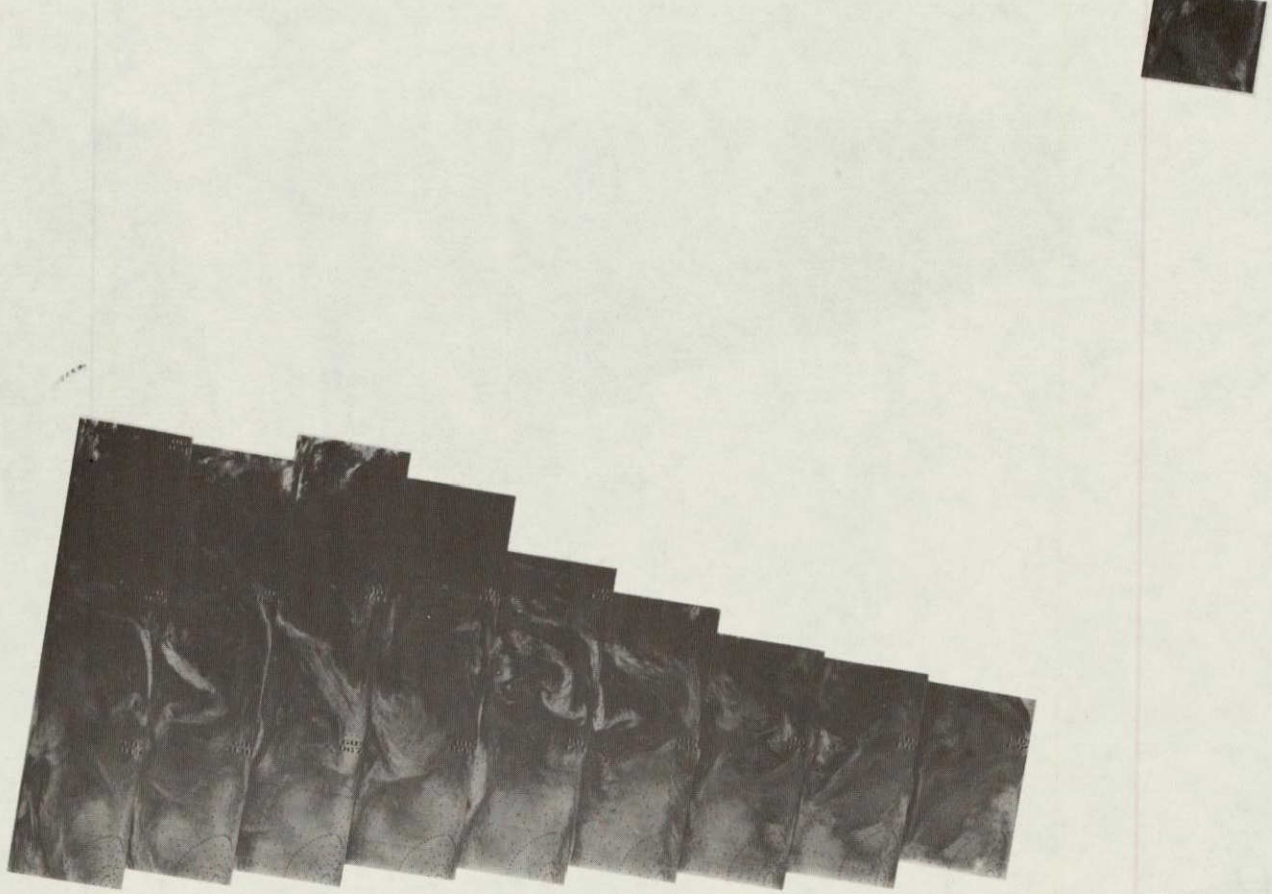
18 AUG 76

11.5 μm

5824 5823 5822 5821 5820 5819 5818 5817 5816 5815 5814 5813 5812

19 AUG 76

6.7 μm



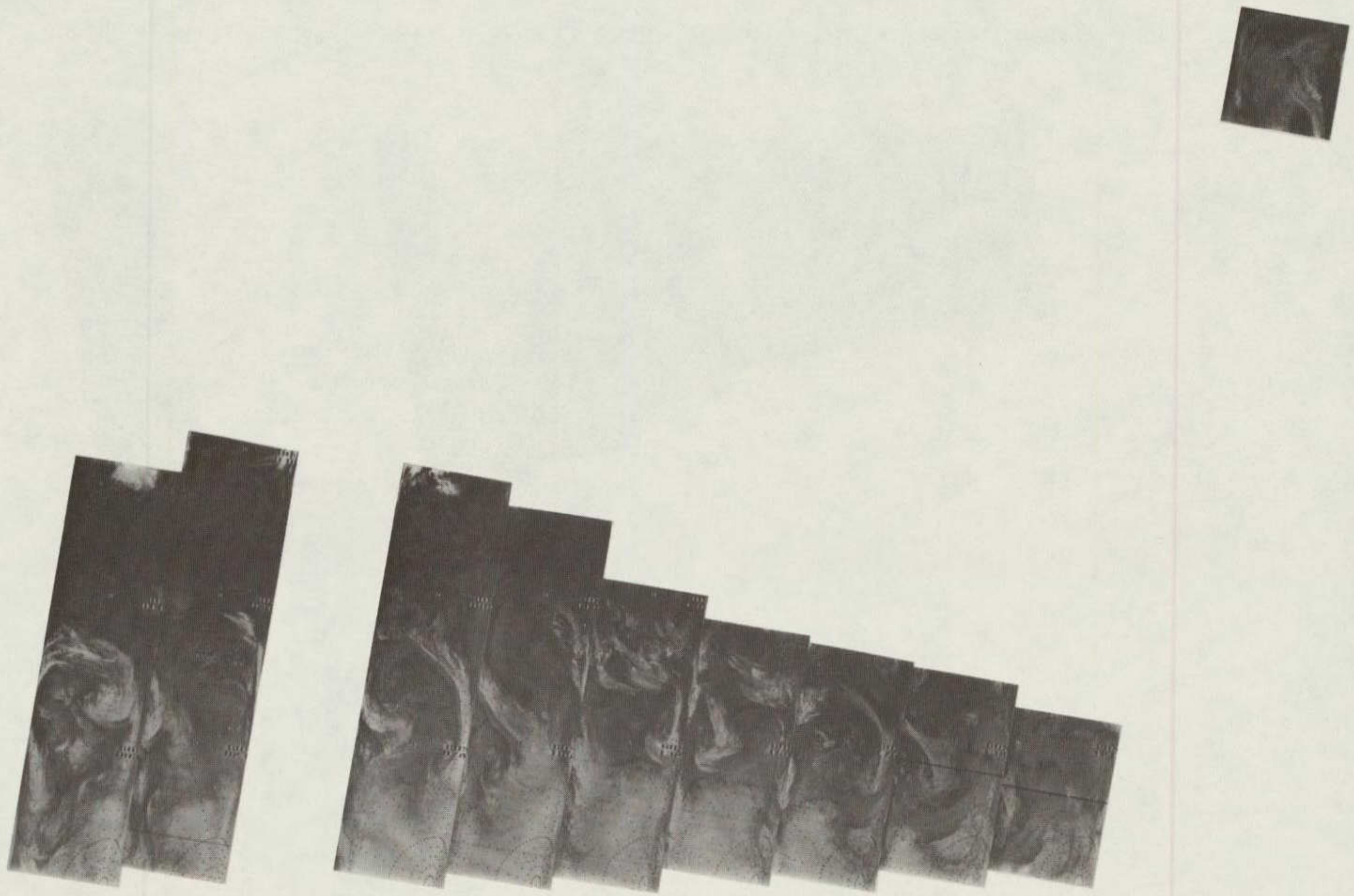
19 AUG 76

11.5 μm

5838 5837 5836 5835 5834 5833 5832 5831 5830 5829 5828 5827 5826 5825

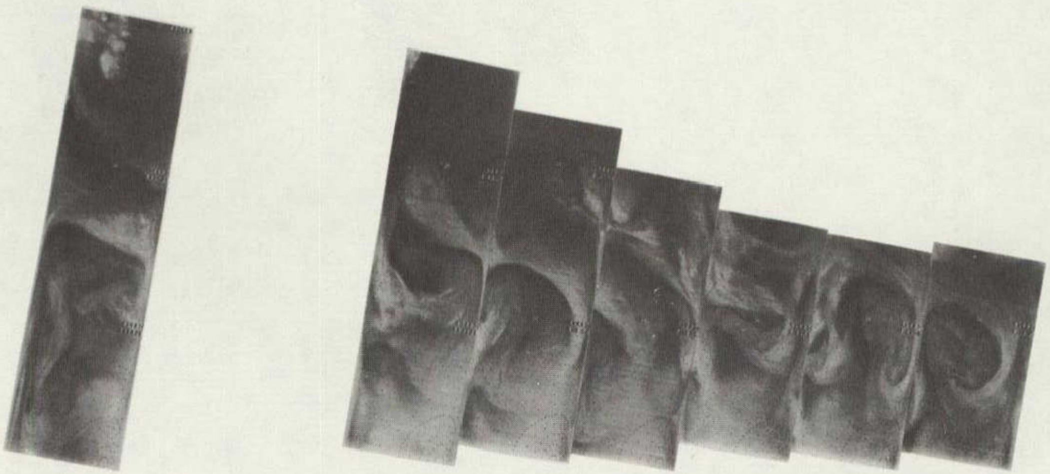
20 AUG 76

6.7 μm



20 AUG 76

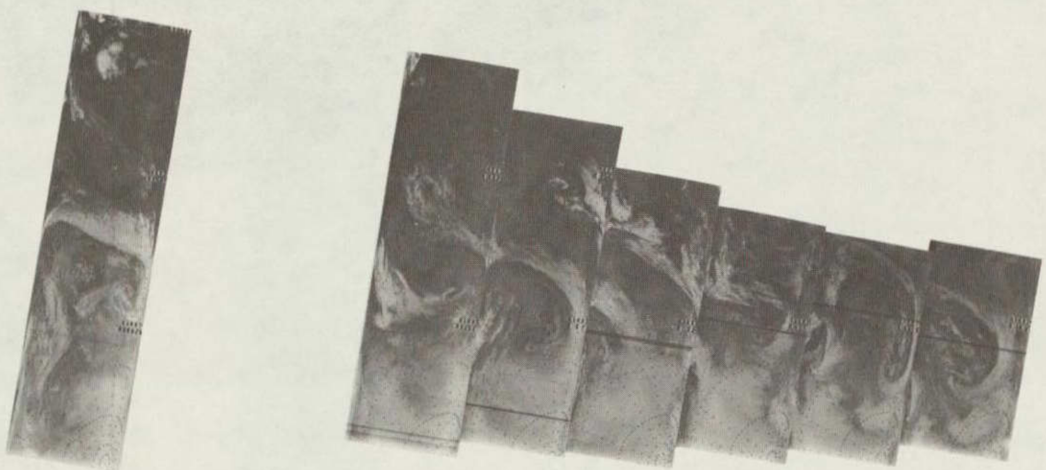
11.5 um



5851 5850 5849 5848 5847 5846 5845 5844 5843 5842 5841 5840 5839

21 AUG 76

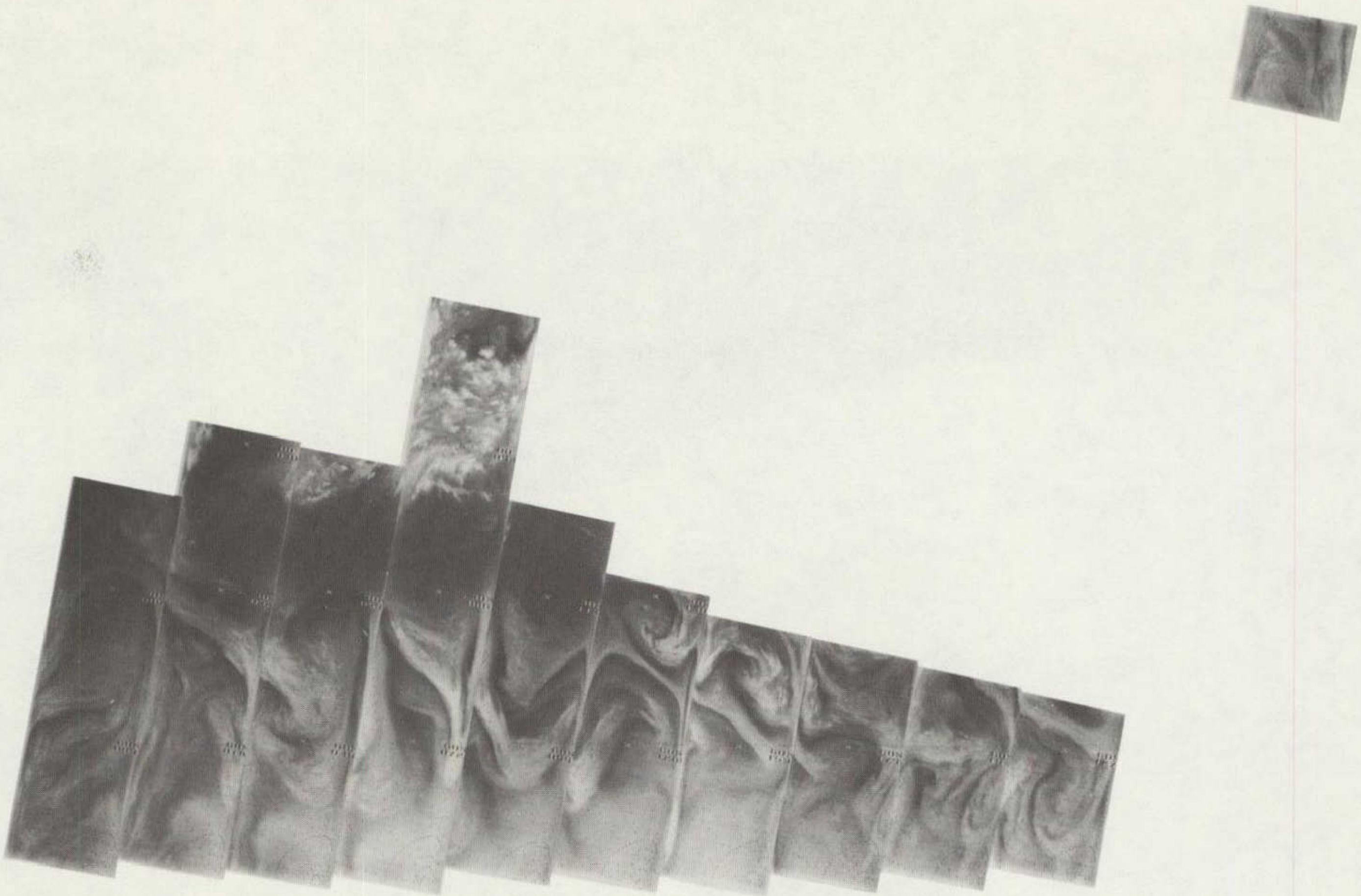
6.7 μm



5851 5850 5849 5848 5847 5846 5845 5844 5843 5842 5841 5840 5839

21 AUG 76

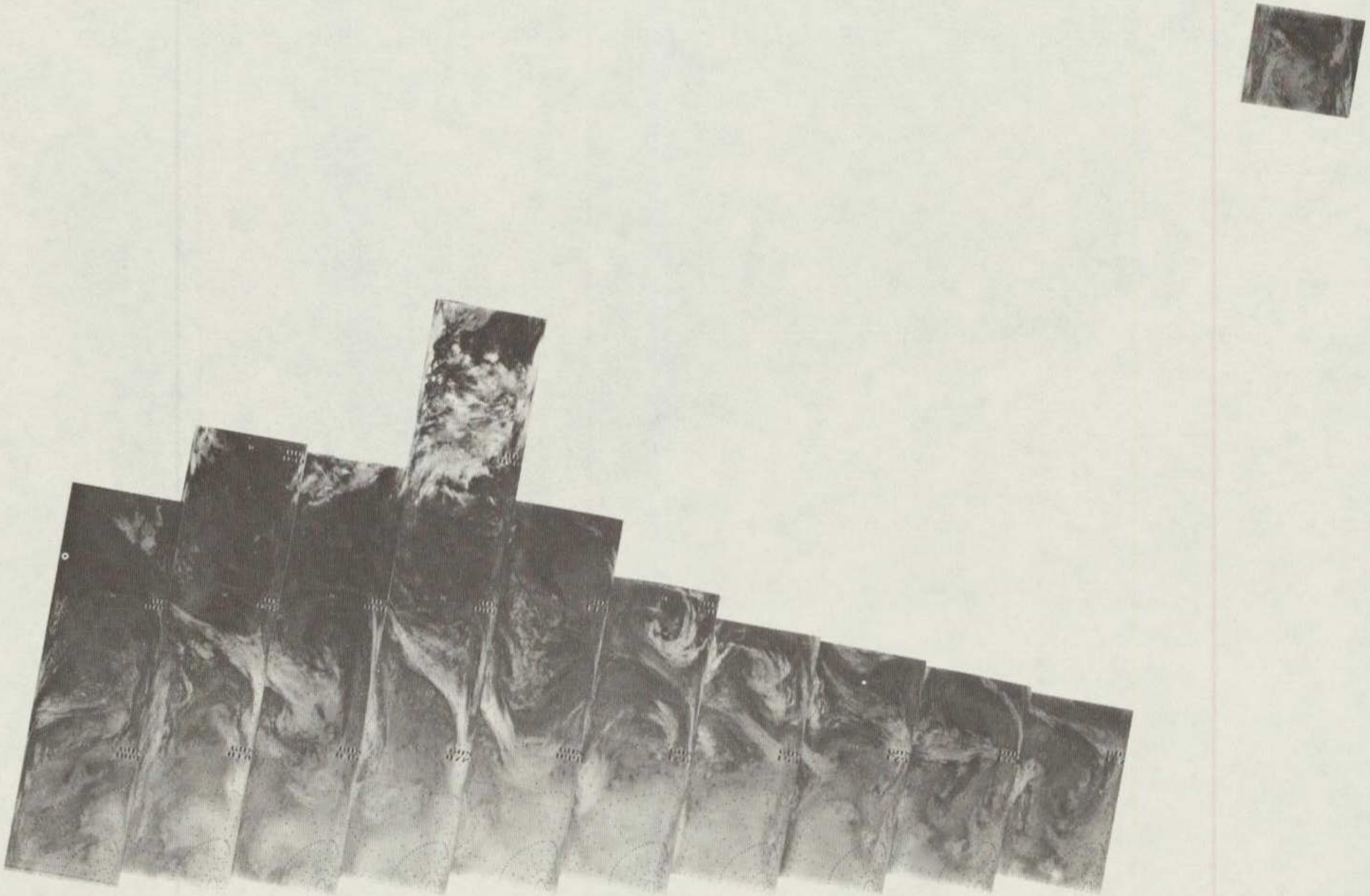
11.5 μm



5865 5864 5863 5862 5861 5860 5859 5858 5857 5856 5855 5854 5853 5852

22 AUG 76

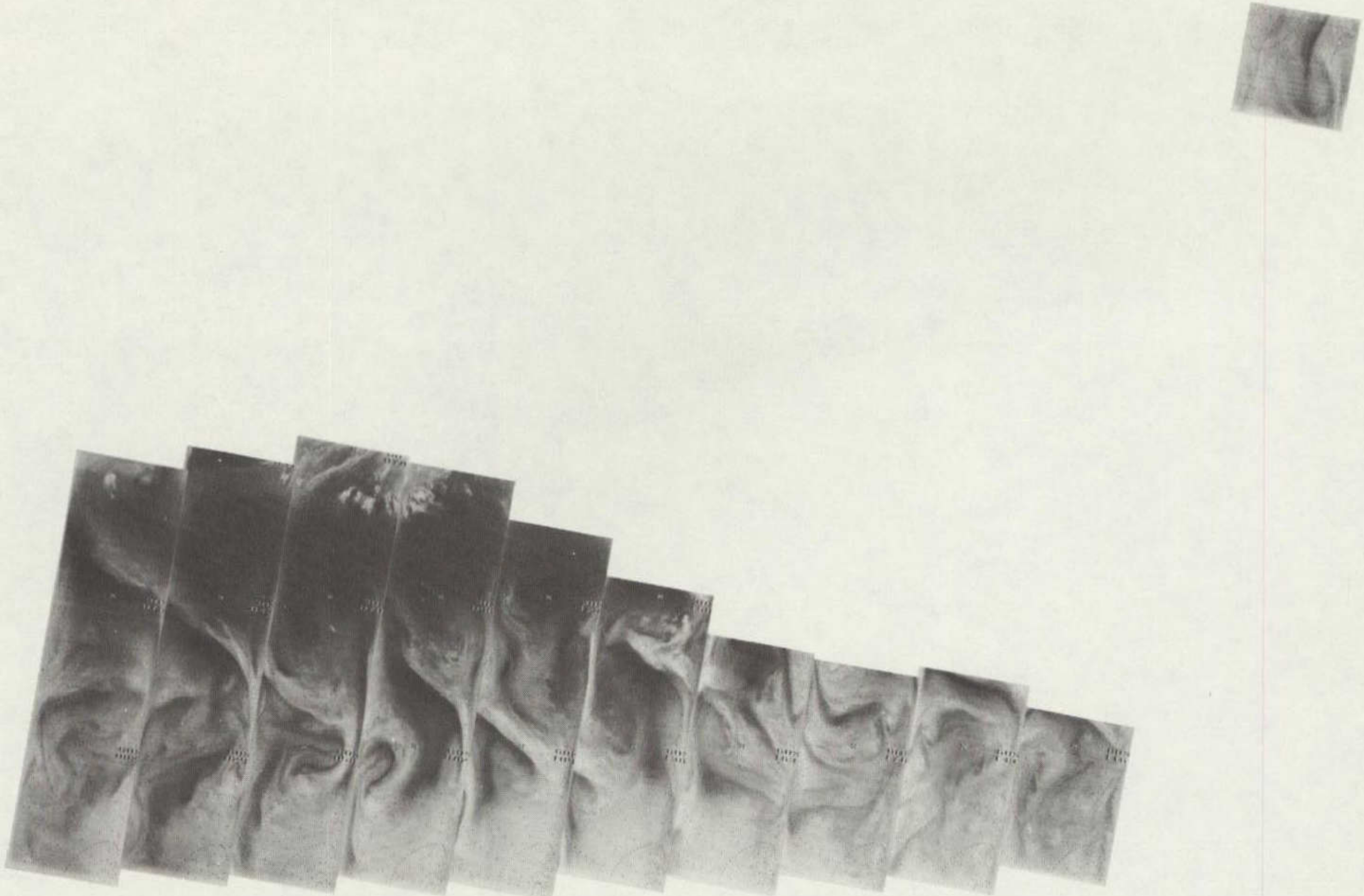
6.7 μm



5865 5864 5863 5862 5861 5860 5859 5858 5857 5856 5855 5854 5853 5852

22 AUG 76

11.5 μm



5878 5877 5876 5875 5874 5873 5872 5871 5870 5869 5968 5967 5866

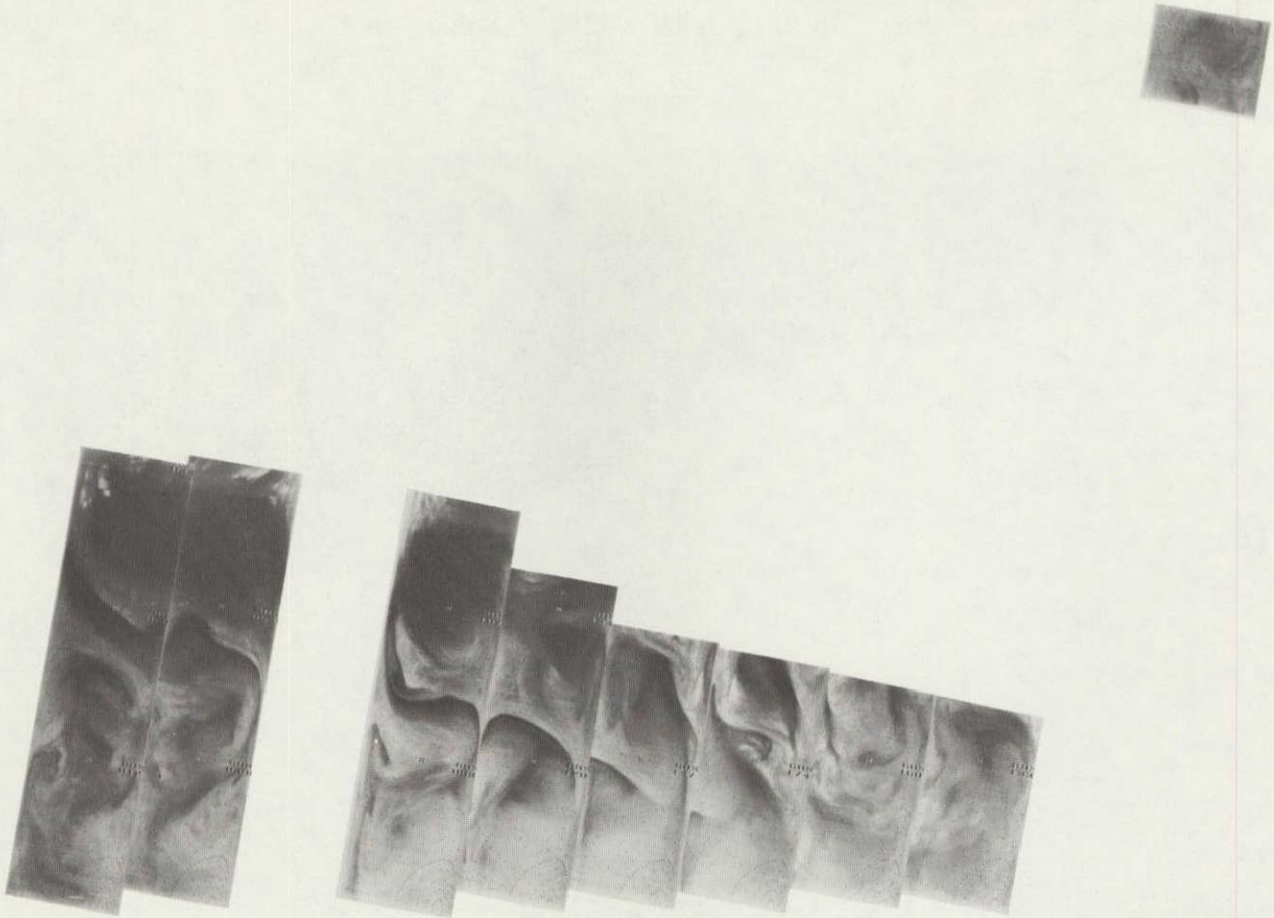
23 AUG 76

6.7 μm

5878 5877 5876 5875 5874 5873 5872 5871 5870 5869 5868 5867 5866

23 AUG 76

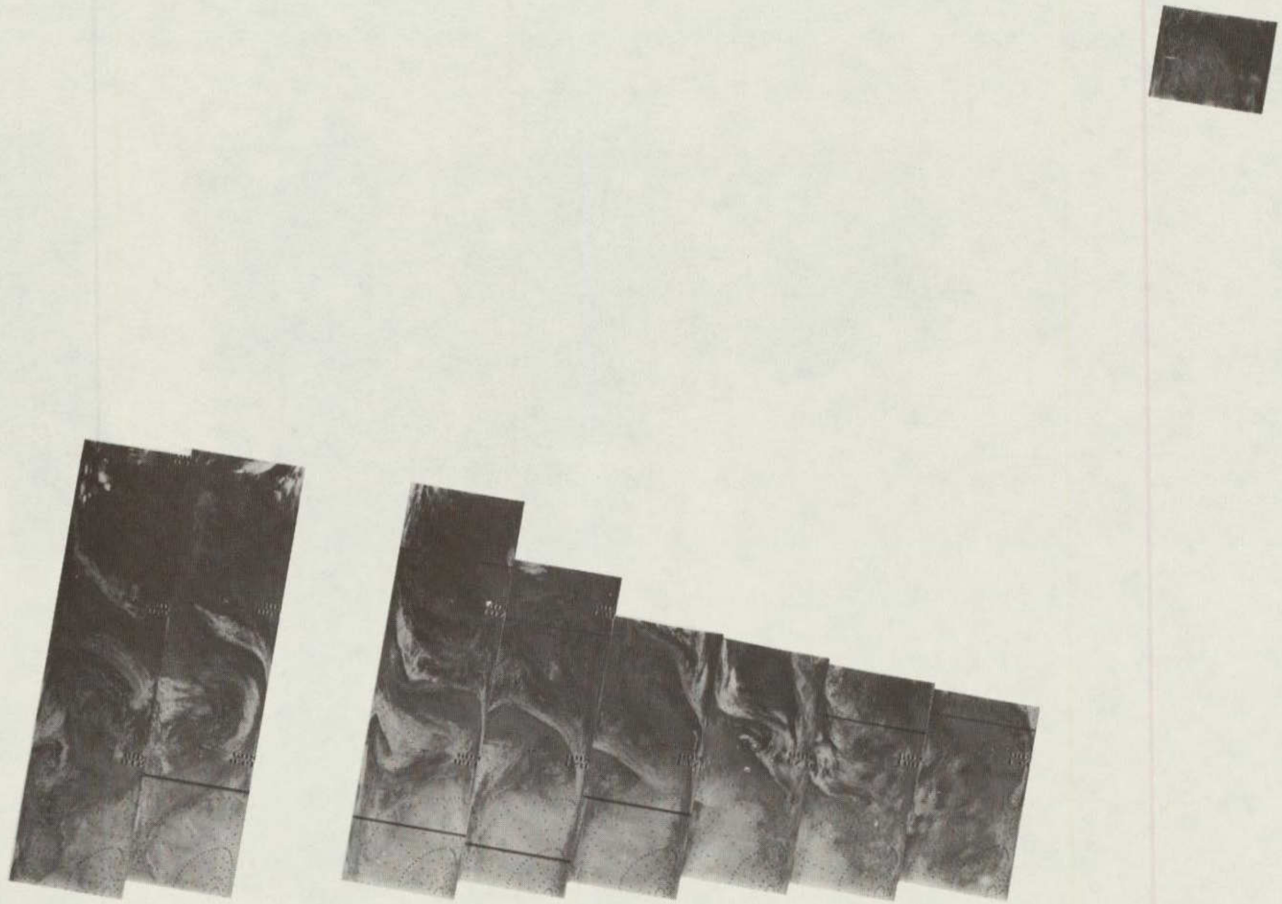
11.5 μm



5891 5890 5889 5888 5887 5886 5885 5884 5883 5882 5881 5880 5879

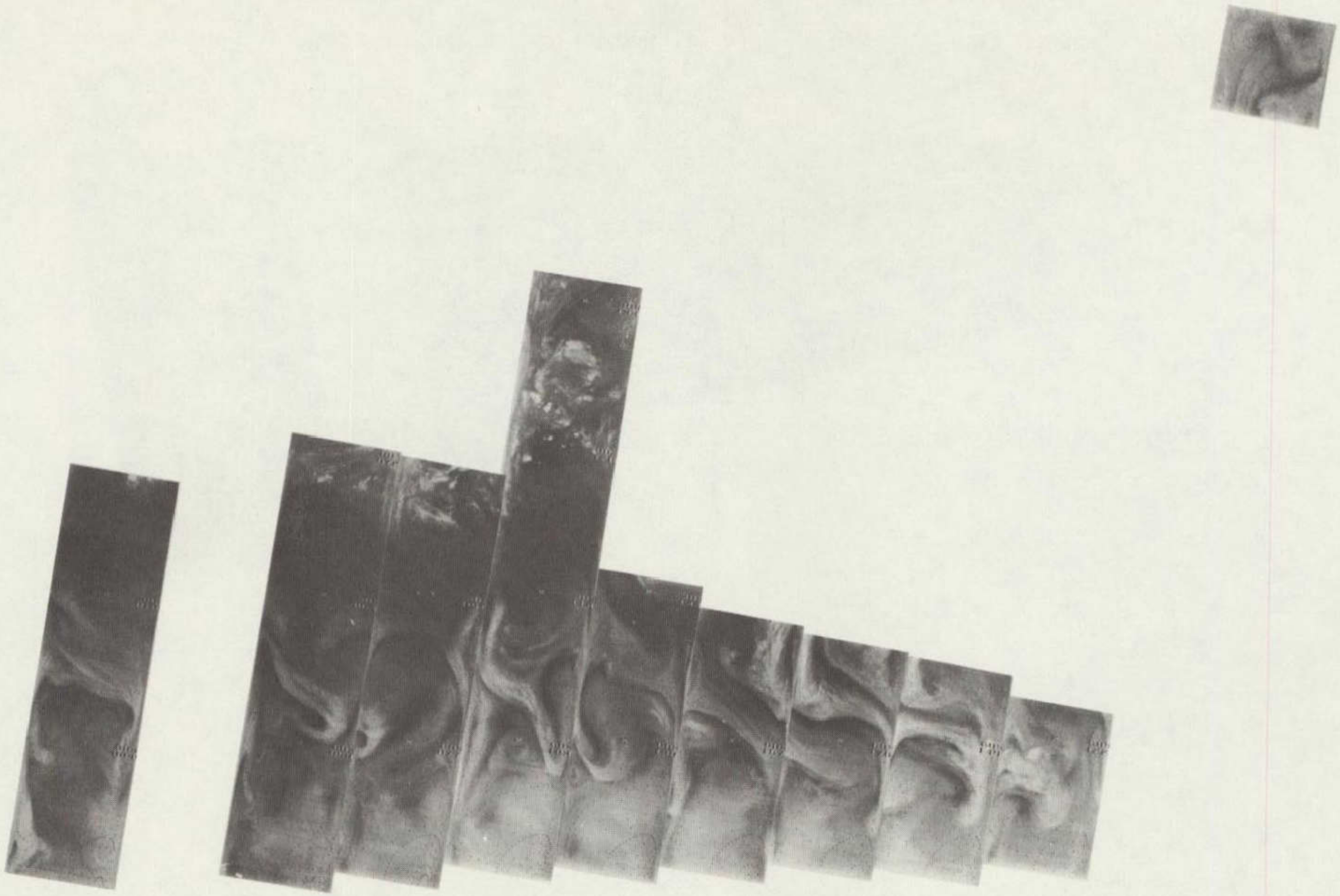
24 AUG 76

6.7 μm



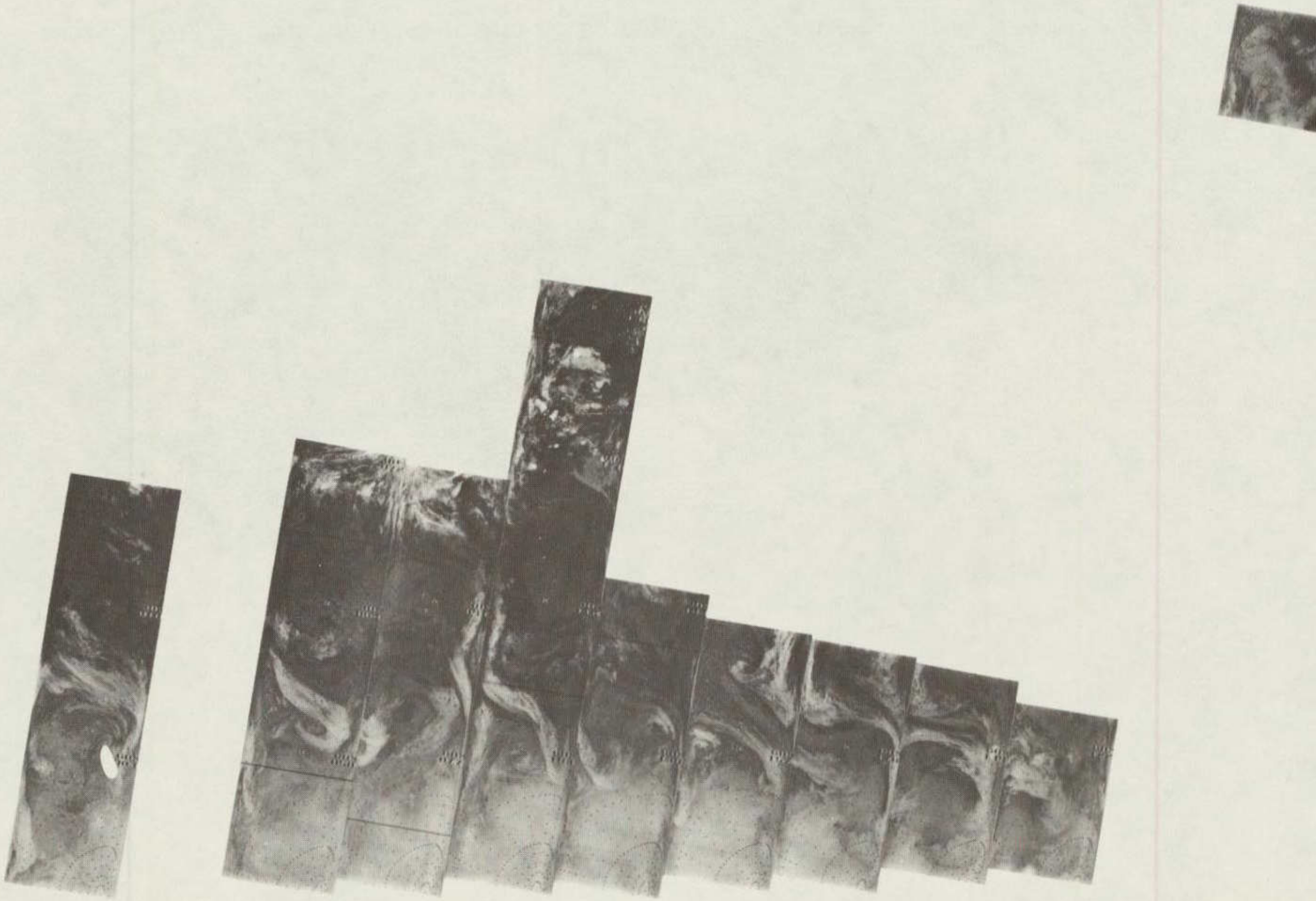
24 AUG 76

11.5 μm



25 AUG 76

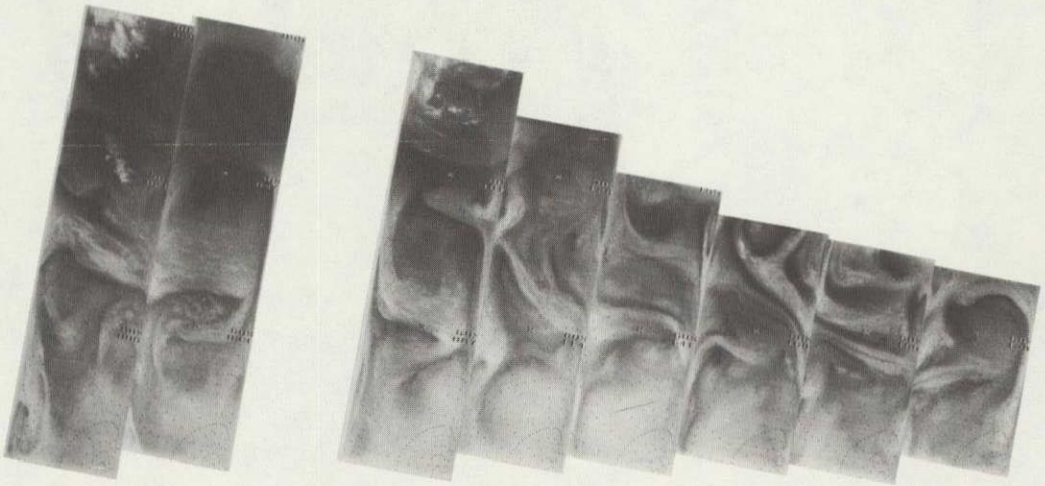
6.7 μm



5905 5904 5903 5902 5901 5900 5899 5898 5897 5896 5895 5894 5893 5892

25 AUG 76

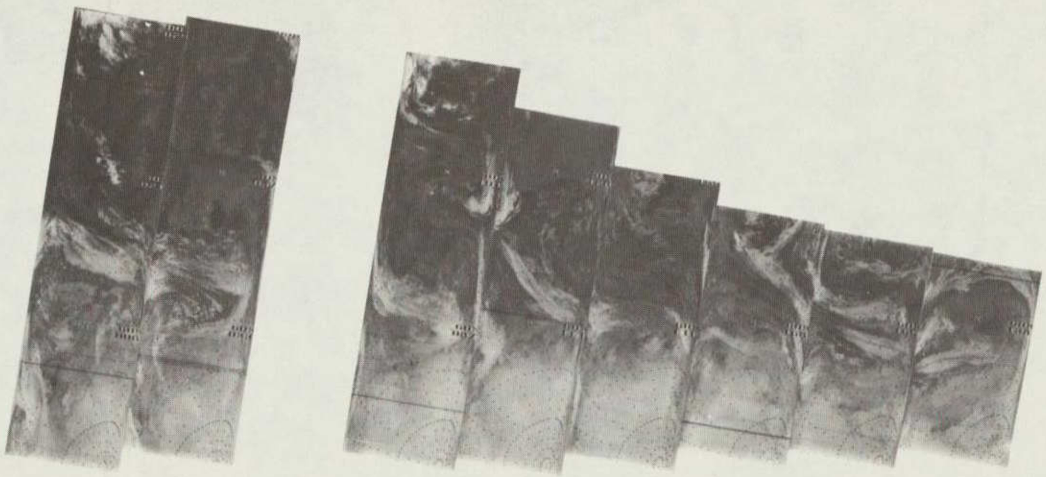
11.5 μm



5918 5917 5916 5915 5914 5913 5912 5911 5910 5909 5908 5907 5906

26 AUG 76

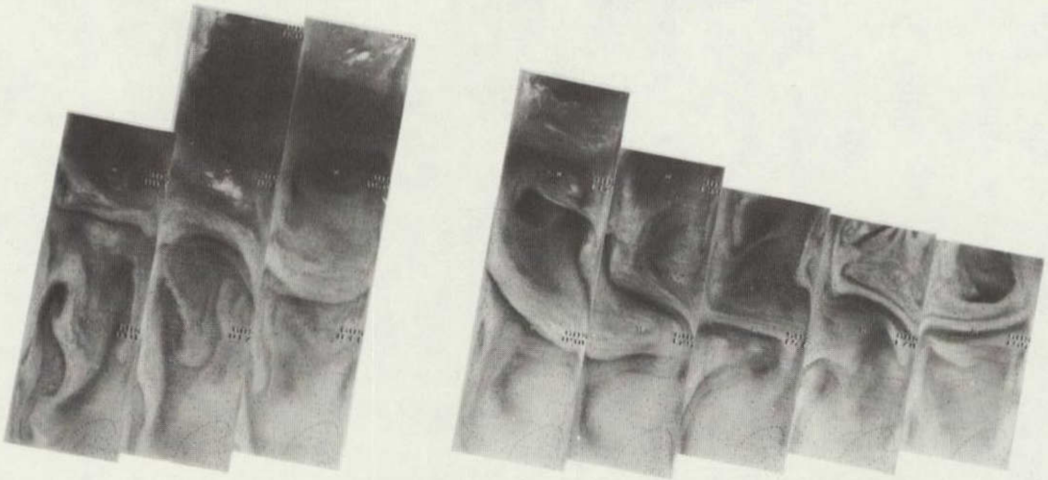
6.7 μm



5918 5917 5916 5915 5814 5913 5912 5911 5910 5909 5908 5907 5906

26 AUG 76

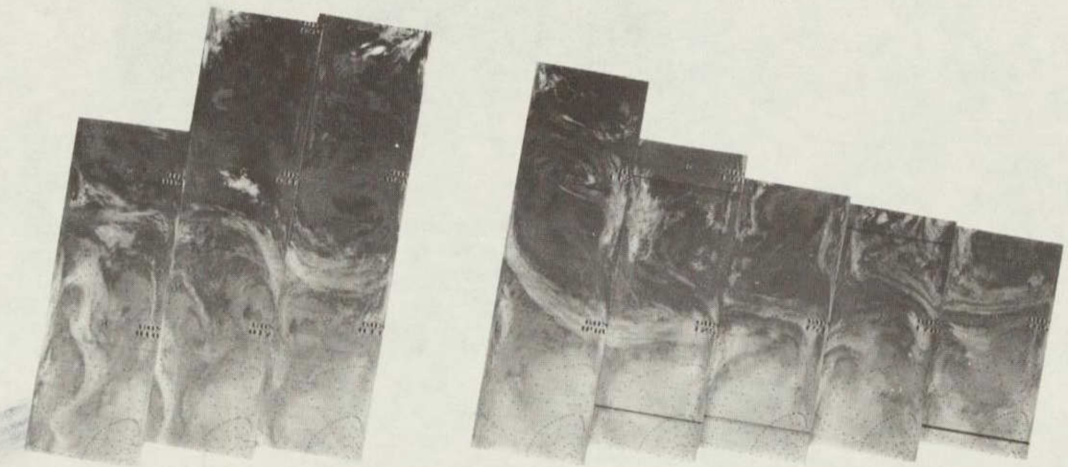
11.5 μm



5932 5931 5930 5929 5928 5927 5926 5925 5924 5923 5922 5921 5920 5919

27 AUG 76

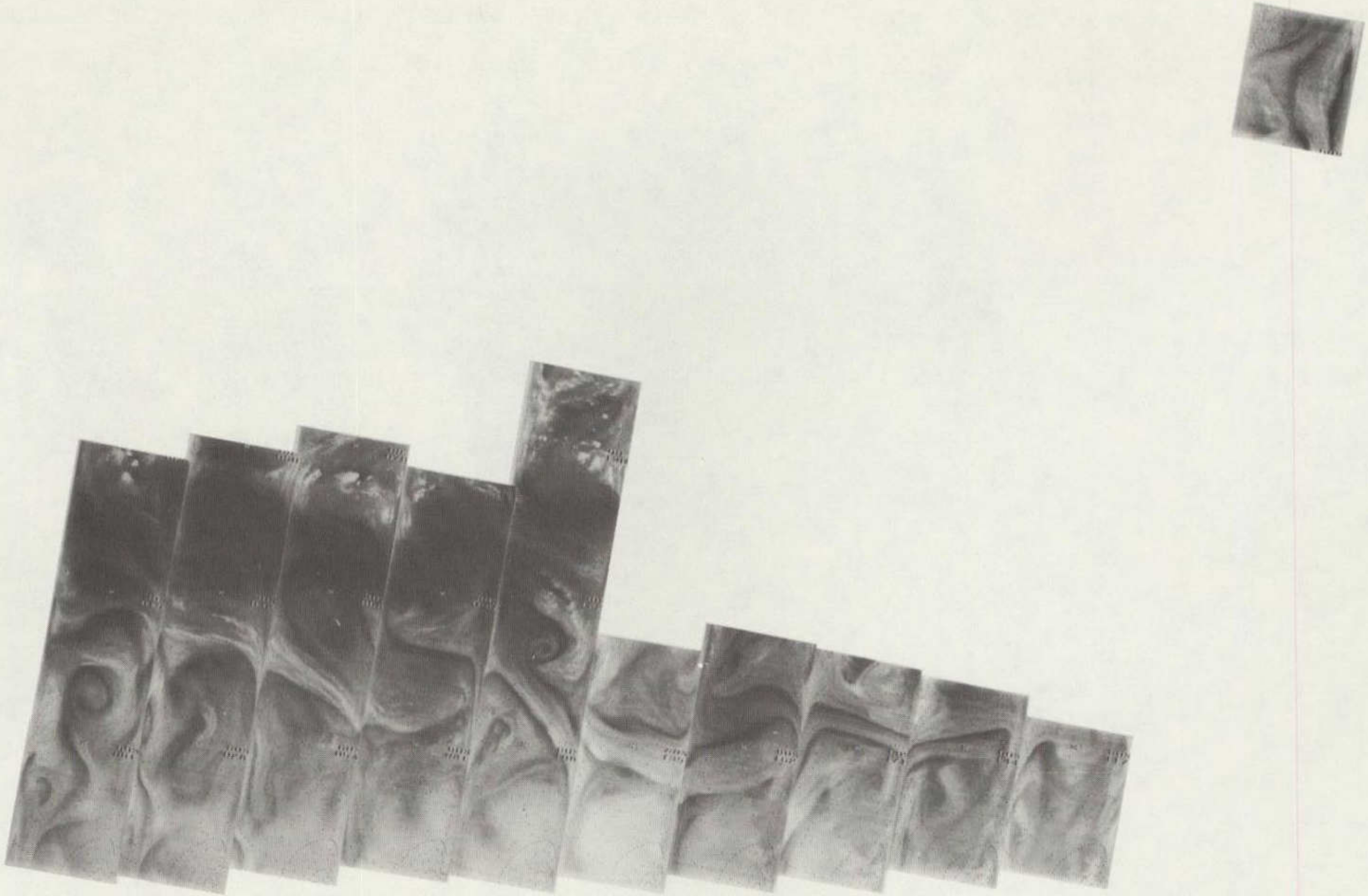
6.7 μm



5932 5931 5930 5929 5928 5927 5926 5925 5924 5923 5922 5921 5920 5919

27 AUG 76

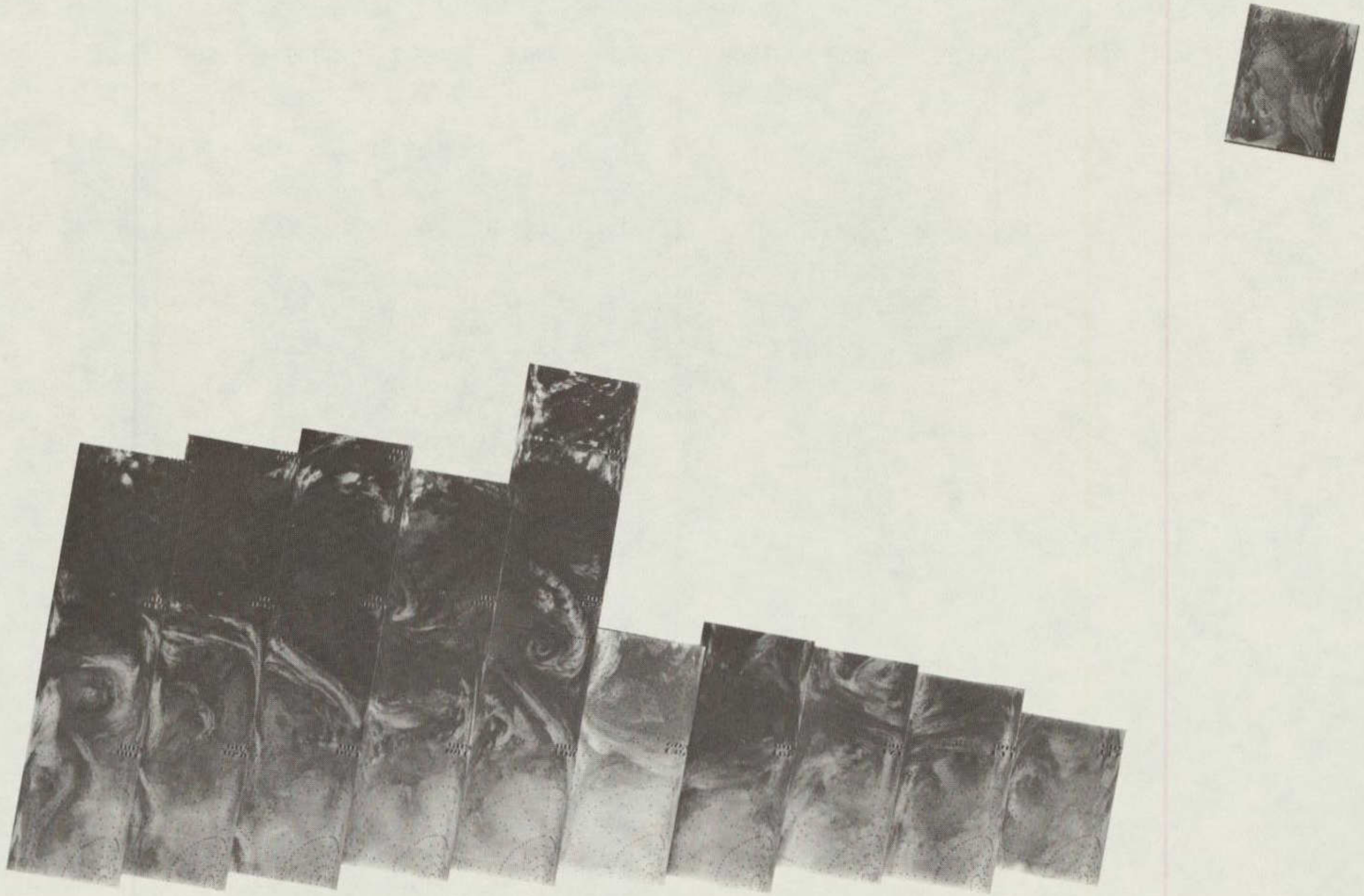
11.5 μm



5945 5944 5943 5942 5941 5940 5939 5938 5937 5936 5935 5934 5933

28 AUG 76

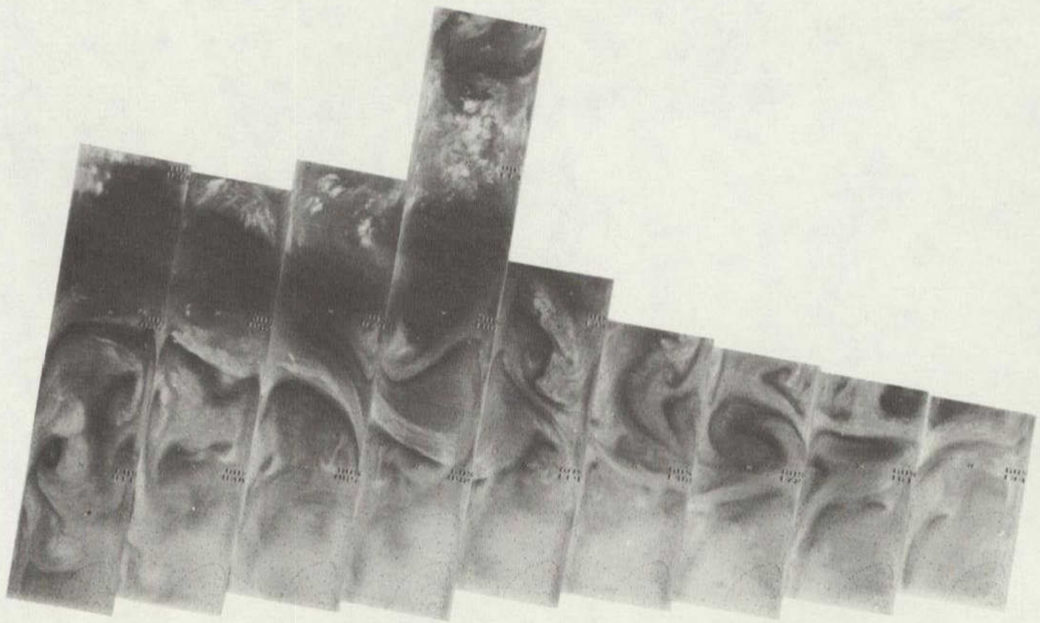
6.7 μm



5945 5944 5943 5942 5941 5940 5939 5938 5937 5936 5935 5934 5933

28 AUG 76

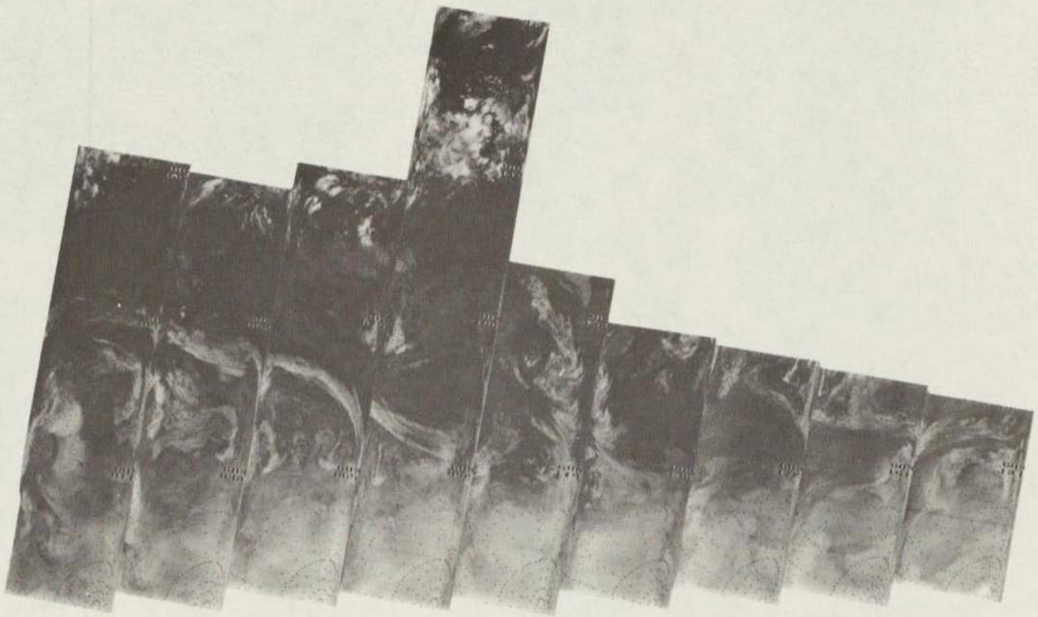
11.5 μm



5958 5957 5956 5955 5954 5953 5952 5951 5950 5949 5948 5947 5946

29 AUG 76

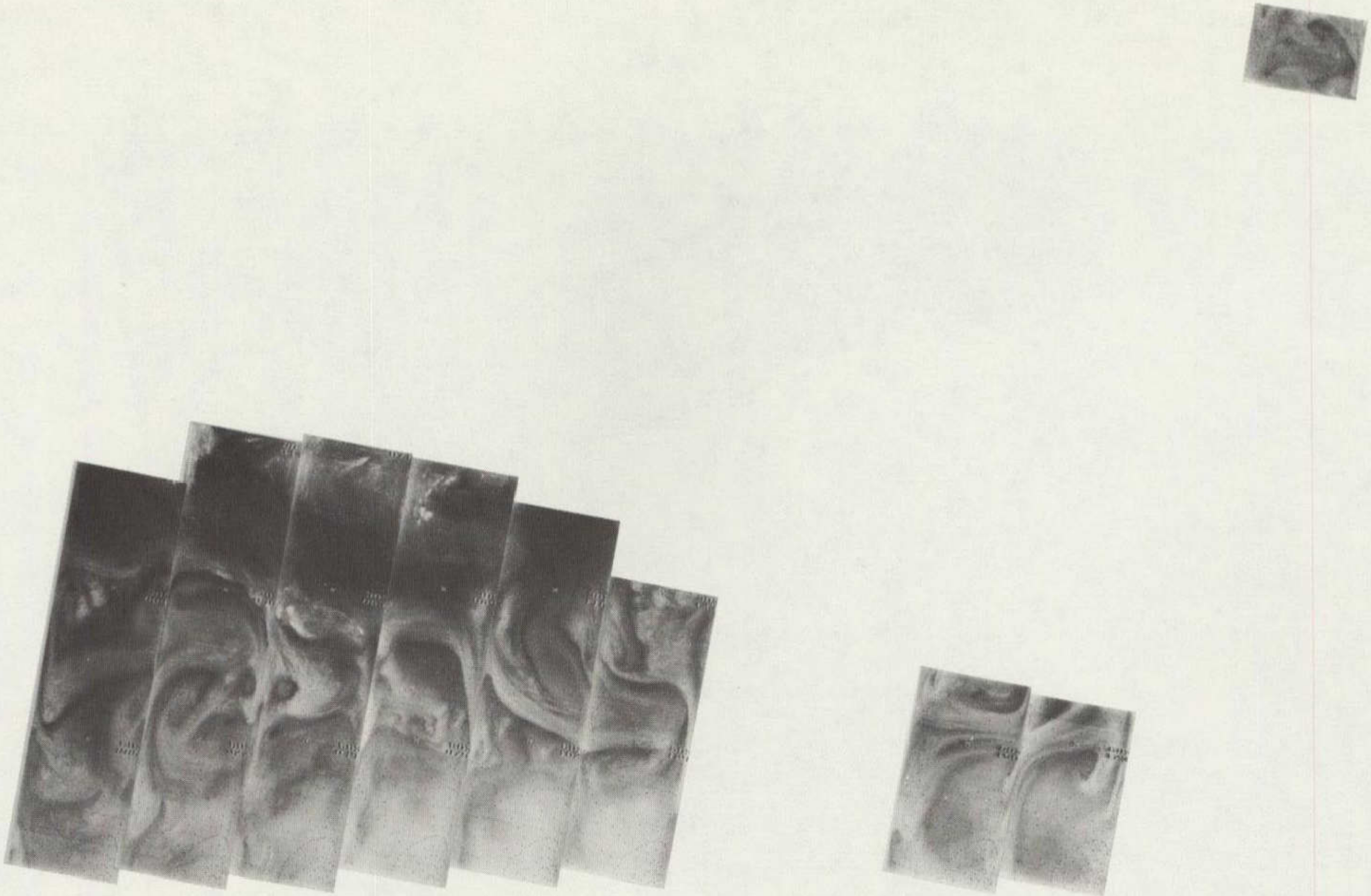
6.7 μm



5958 5957 5956 5955 5954 5953 5952 5951 5950 5949 5948 5947 5946

29 AUG 76

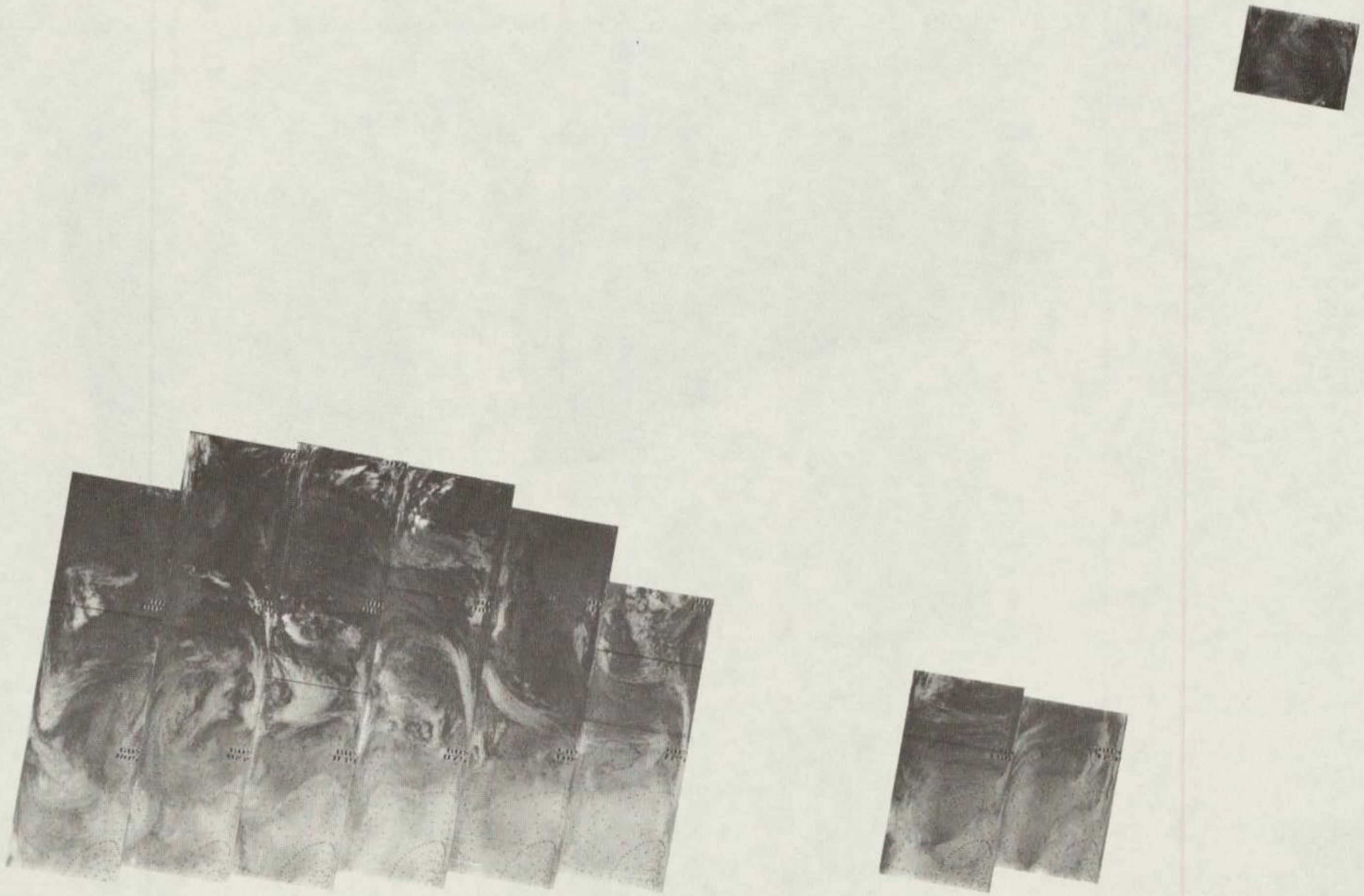
11.5 μm



5972 5971 5970 5969 5968 5967 5966 5965 5964 5963 5962 5961 5960 5959

30 AUG 76

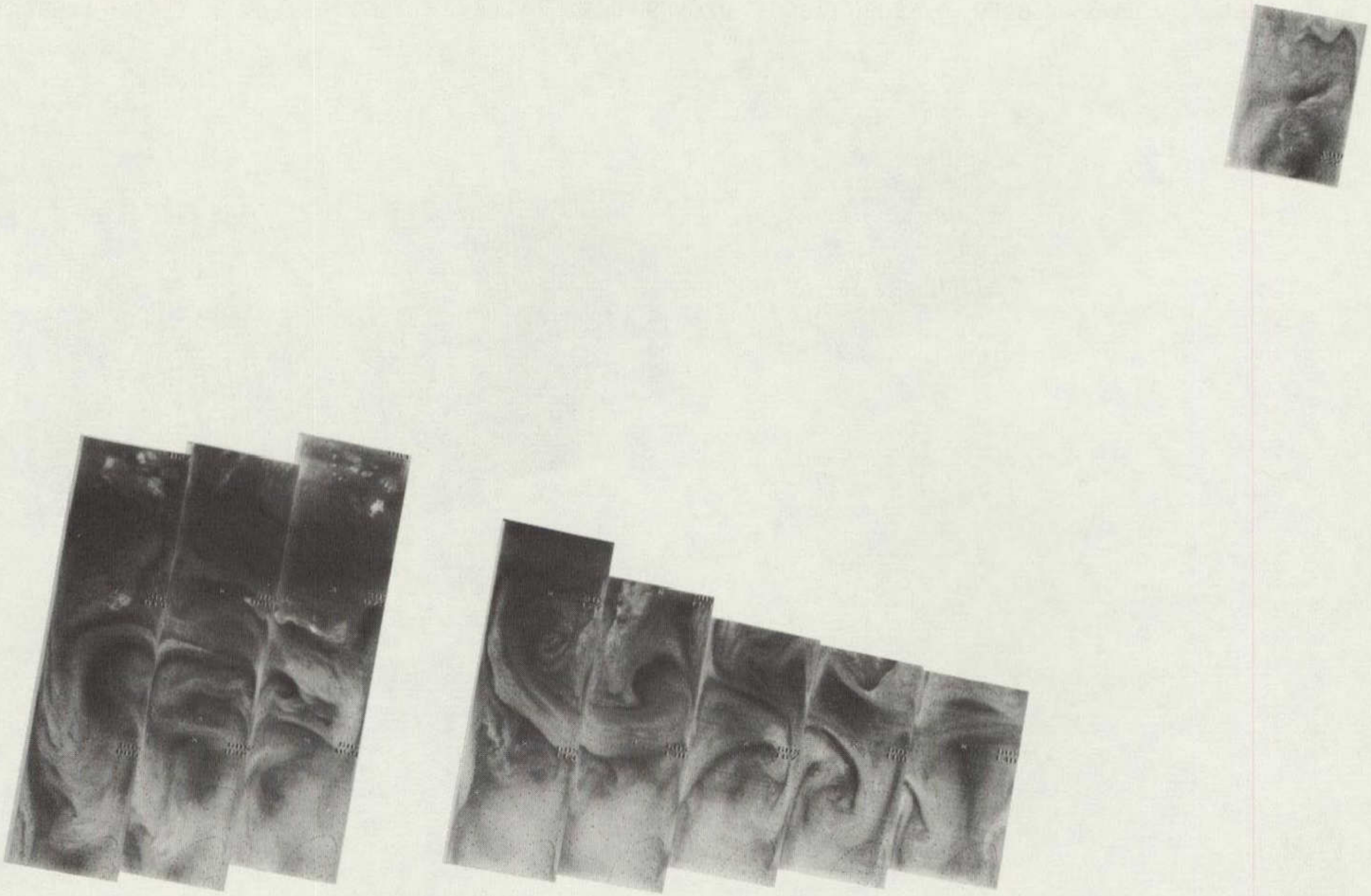
6.7 μm



5972 5971 5970 5969 5968 5967 5968 5965 5964 5963 5962 5961 5960 5959

30 AUG 76

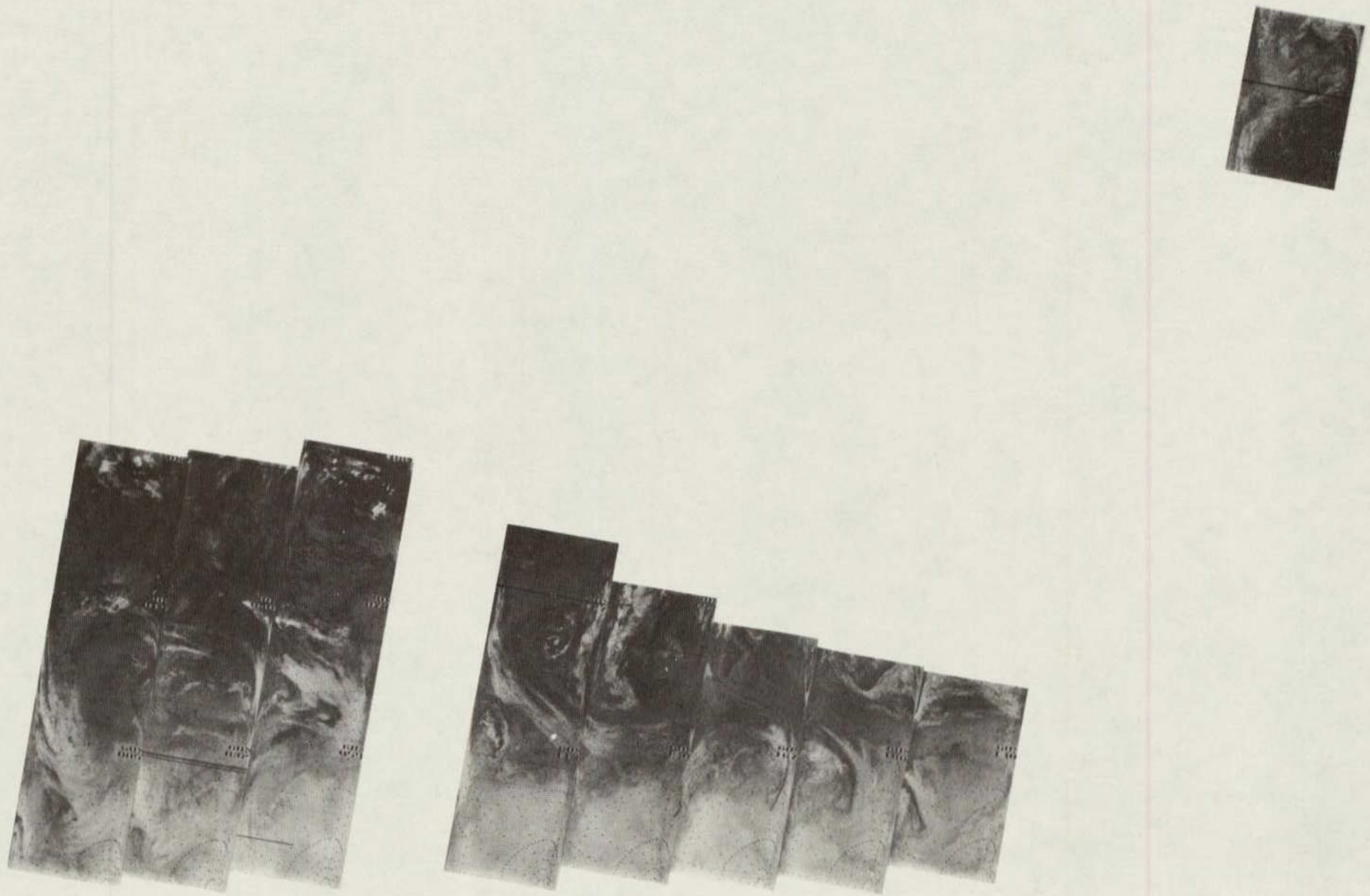
11.5 μm



5985 5984 5983 5982 5981 5980 5979 5978 5977 5976 5975 5974 5973

31 AUG 76

6.7 μm



31 AUG 76

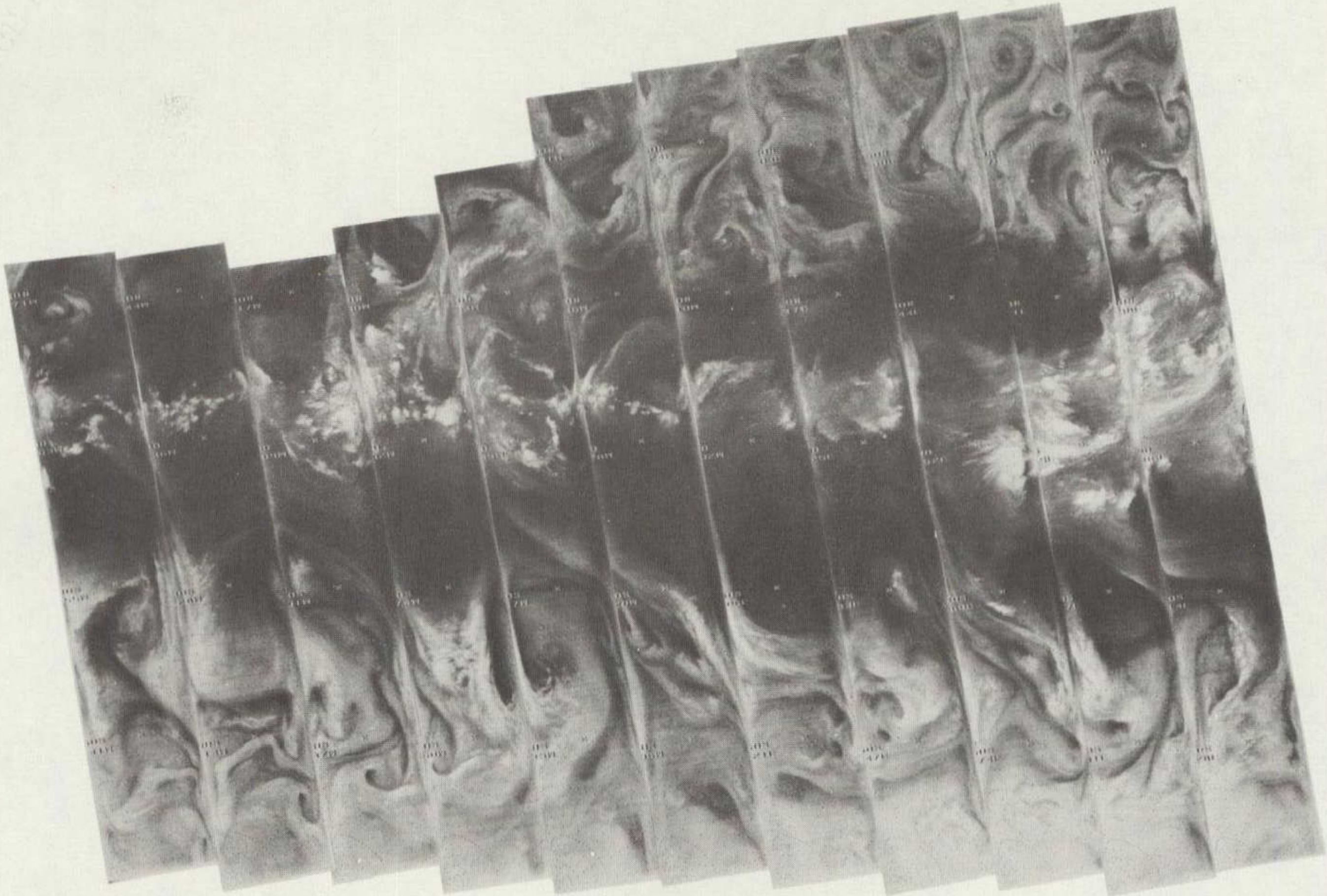
11.5 μm

SECTION 4.2

TEMPERATURE HUMIDITY INFRARED RADIOMETER

DAYTIME MONTAGES

C-3



5168 5167 5166 5165 5164 5163 5162 5161 5160 5159 5158 5157 5156

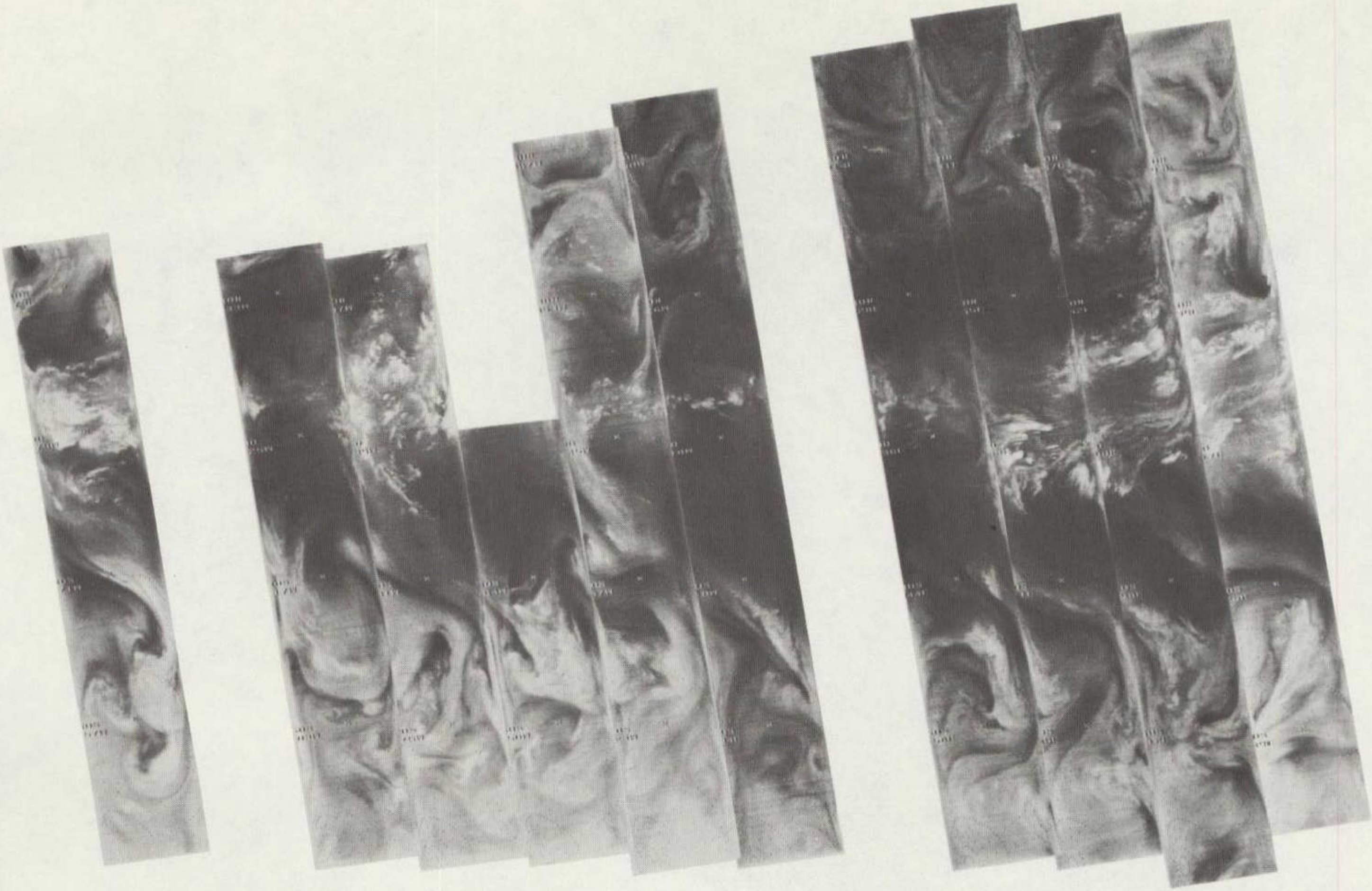
1 JUL 76

6.7 μm

5168 5167 5166 5165 5164 5163 5162 5161 5160 5159 5158 5157 5156

1 JUL 76

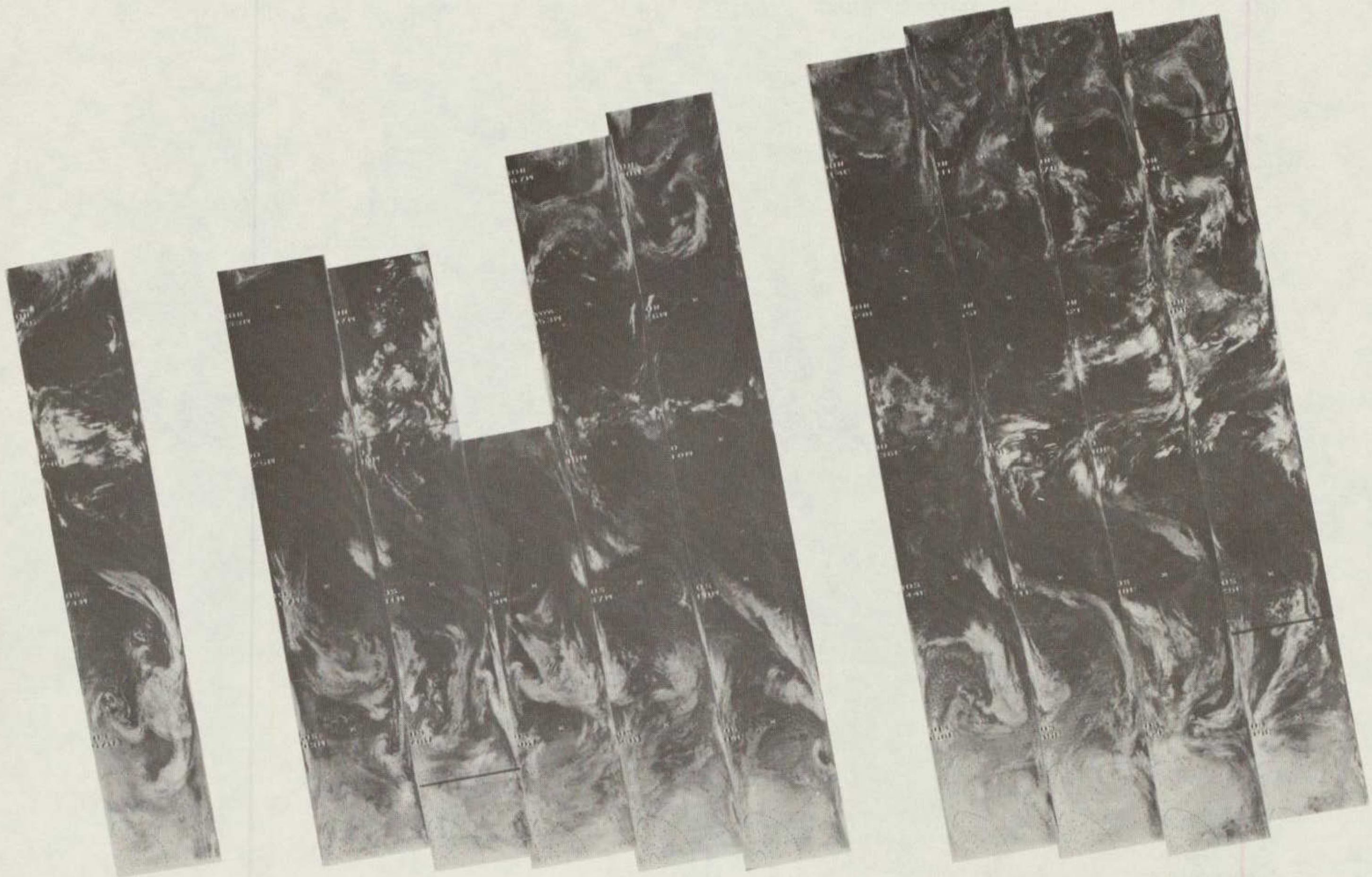
11.5 μm



5182 5181 5180 5179 5178 5177 5176 5175 5174 5173 5172 5171 5170 5169

2 JUL 76

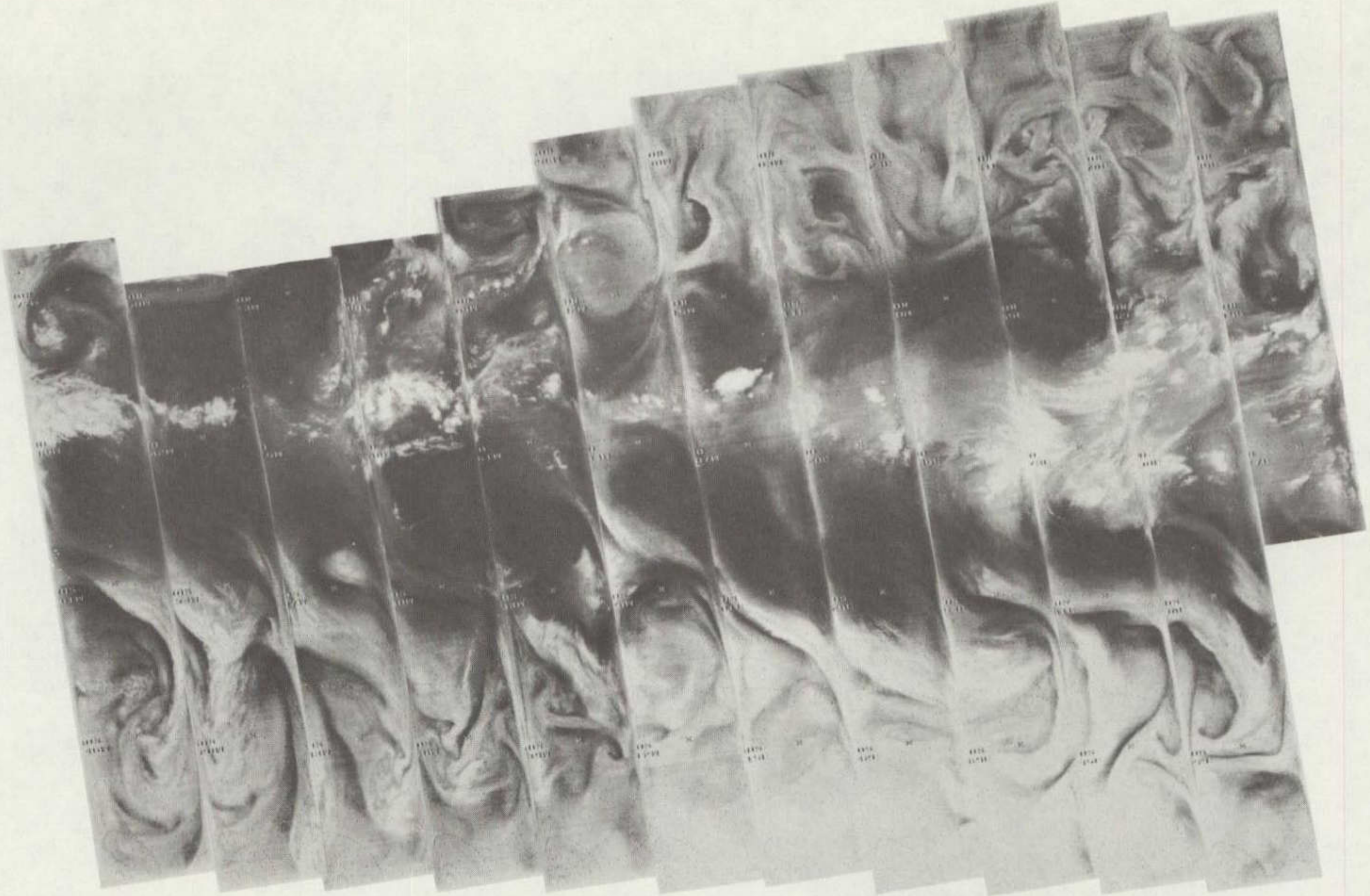
6.7 μm



5182 5181 5180 5179 5178 5177 5176 5175 5174 5173 5172 5171 5170 5169

2 JUL 76

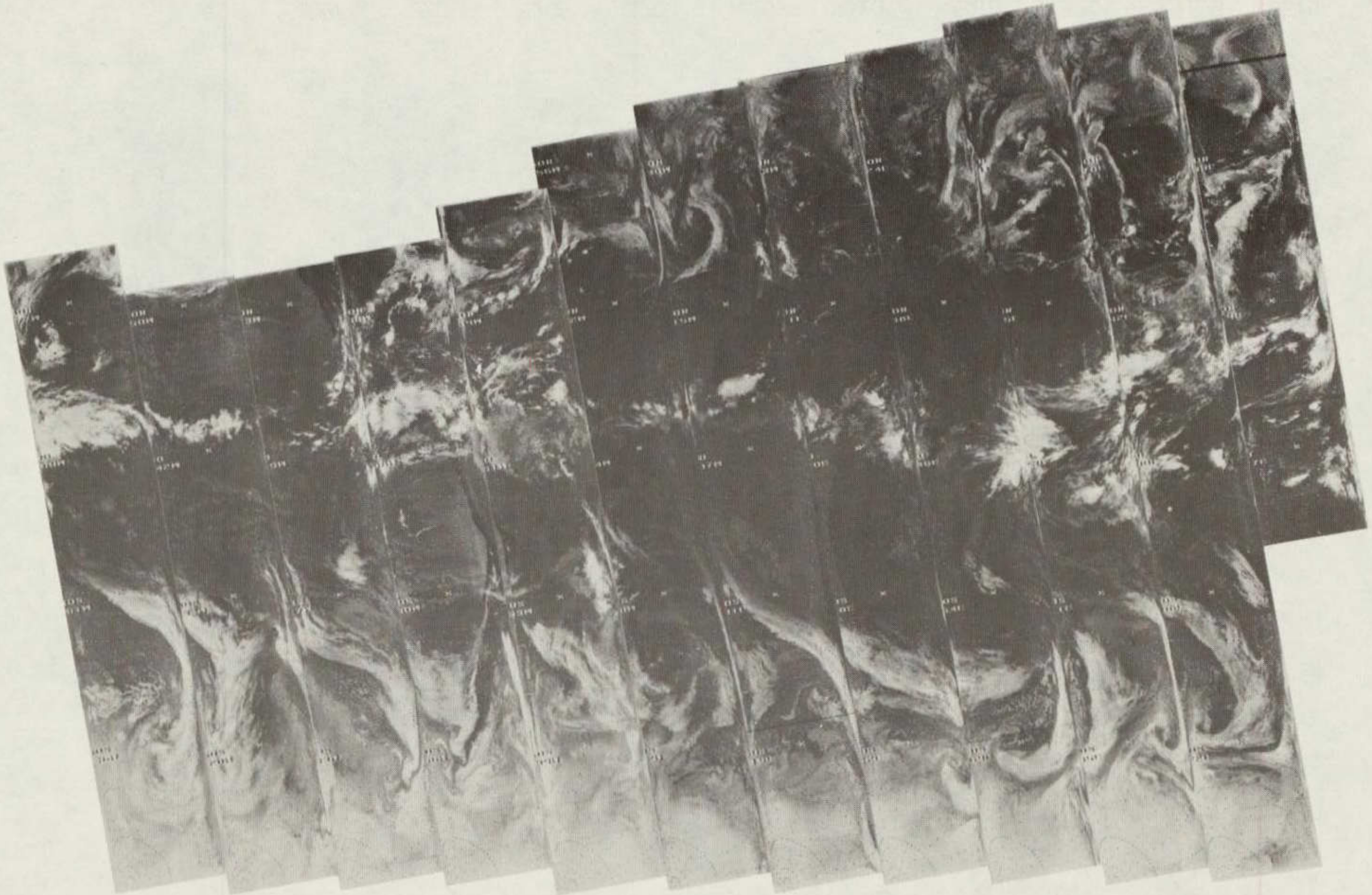
11.5 μm



5195 5194 5193 5192 5191 5190 5189 5188 5187 5186 5185 5184 5183

3 JUL 76

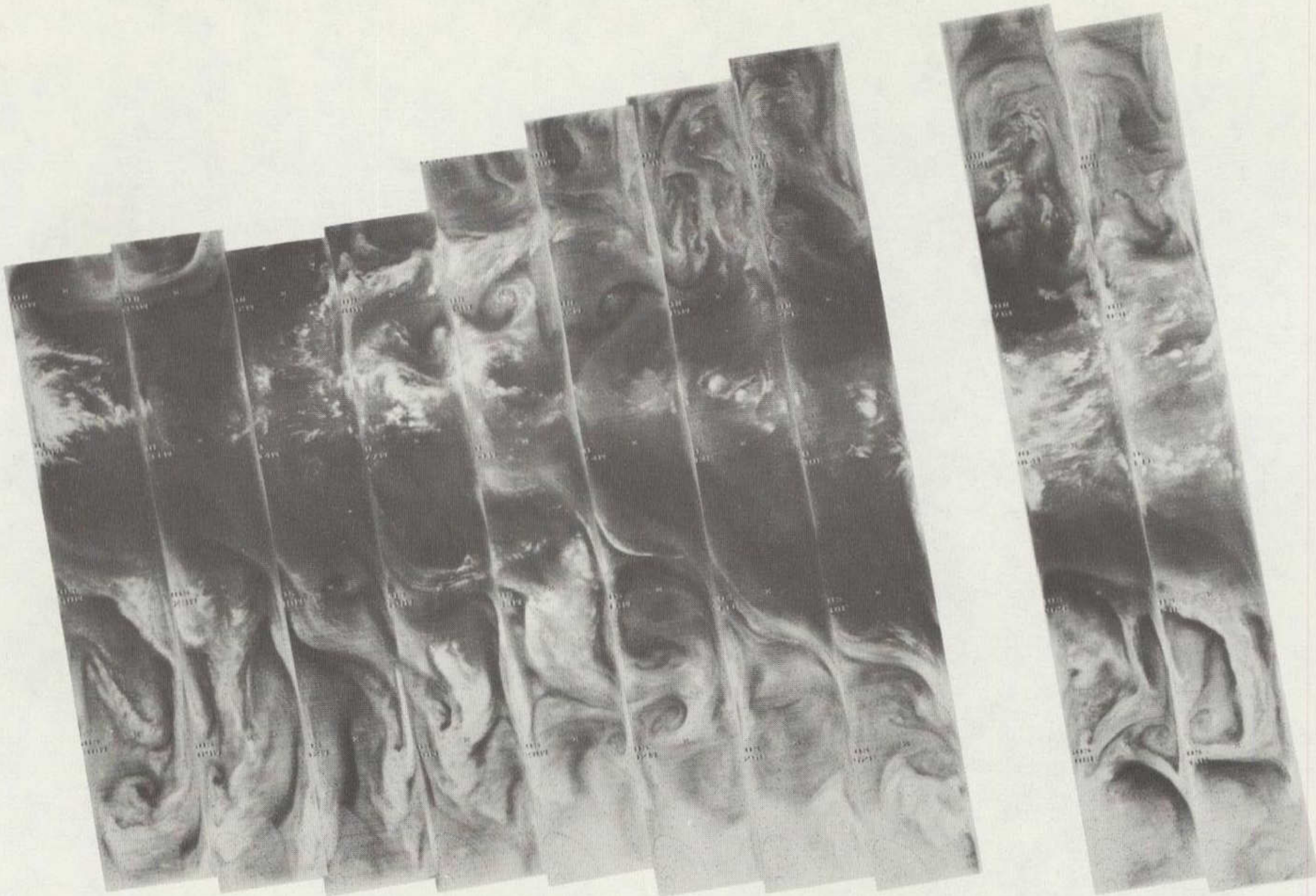
6.7 μm



5195 5194 5193 5192 5191 5190 5189 5188 5187 5186 5185 5184 5183

3 JUL 76

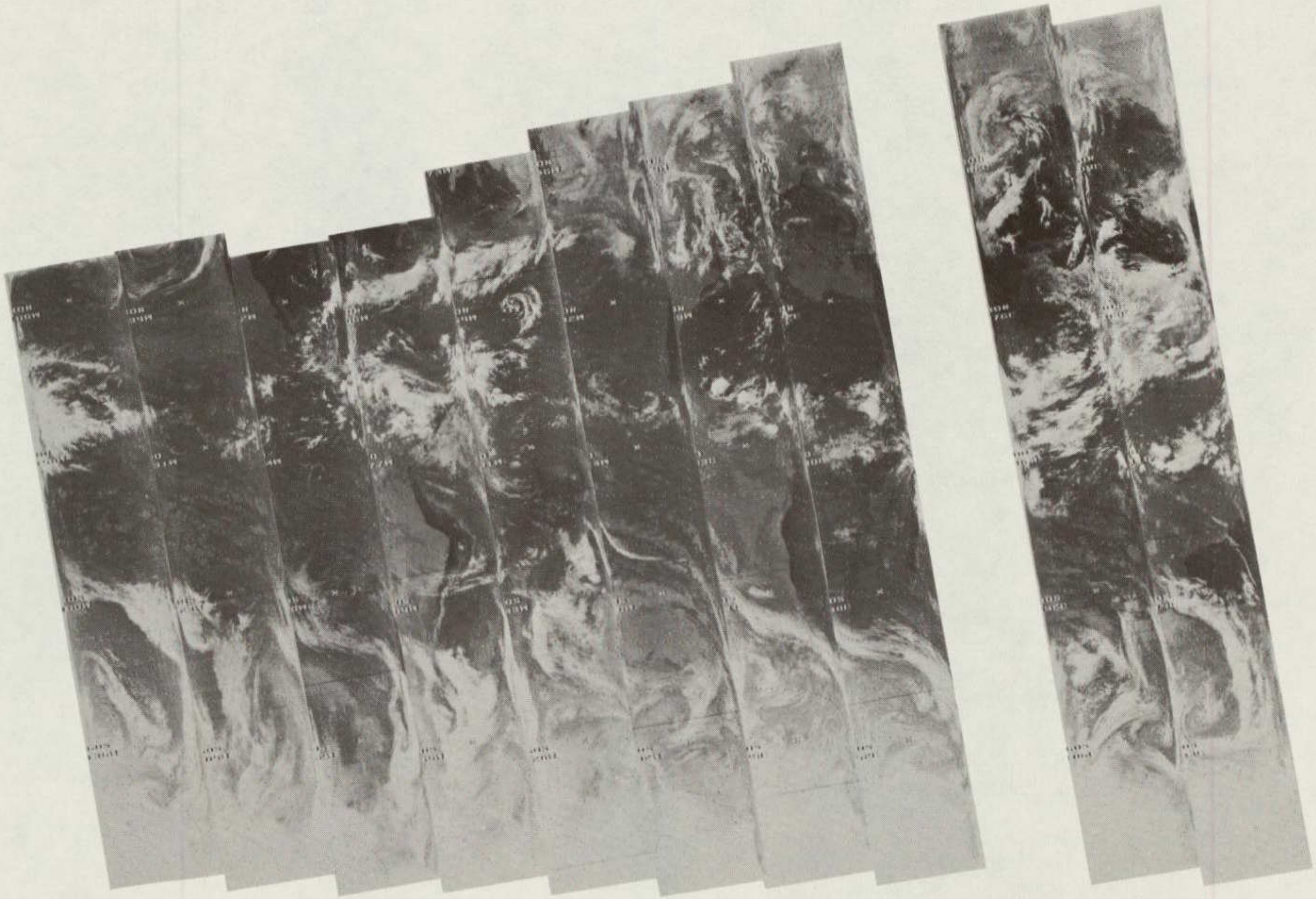
11.5 μm



5208 5207 5206 5205 5204 5203 5202 5201 5200 5199 5198 5197 5196

4 JUL 76

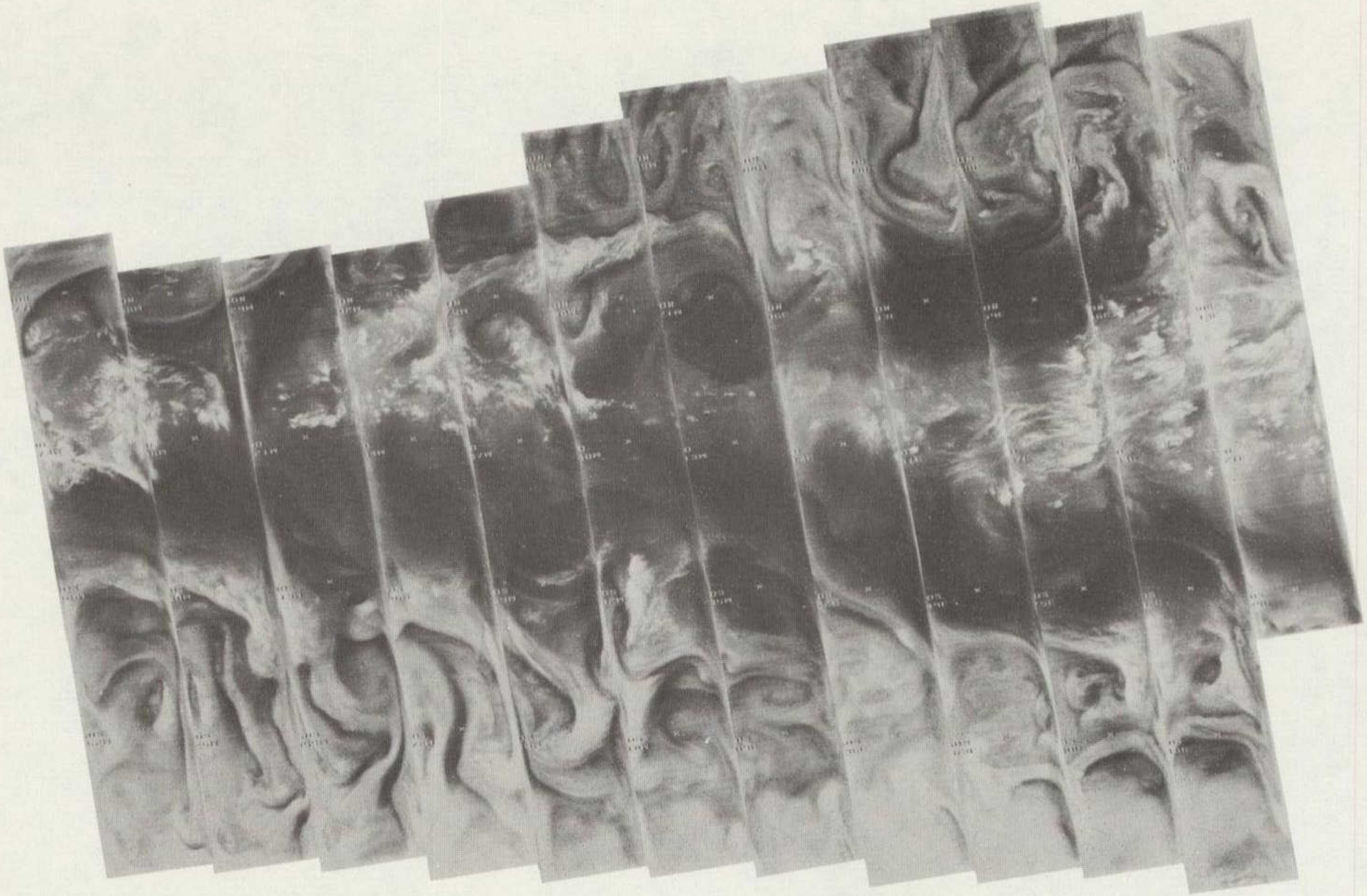
6.7 μm



5208 5207 5206 5205 5204 5203 5202 5201 5200 5199 5198 5197 5196

4 JUL 76

11.5 μm



5222 5221 5220 5219 5218 5217 5216 5215 5214 5213 5212 5211 5210 5209

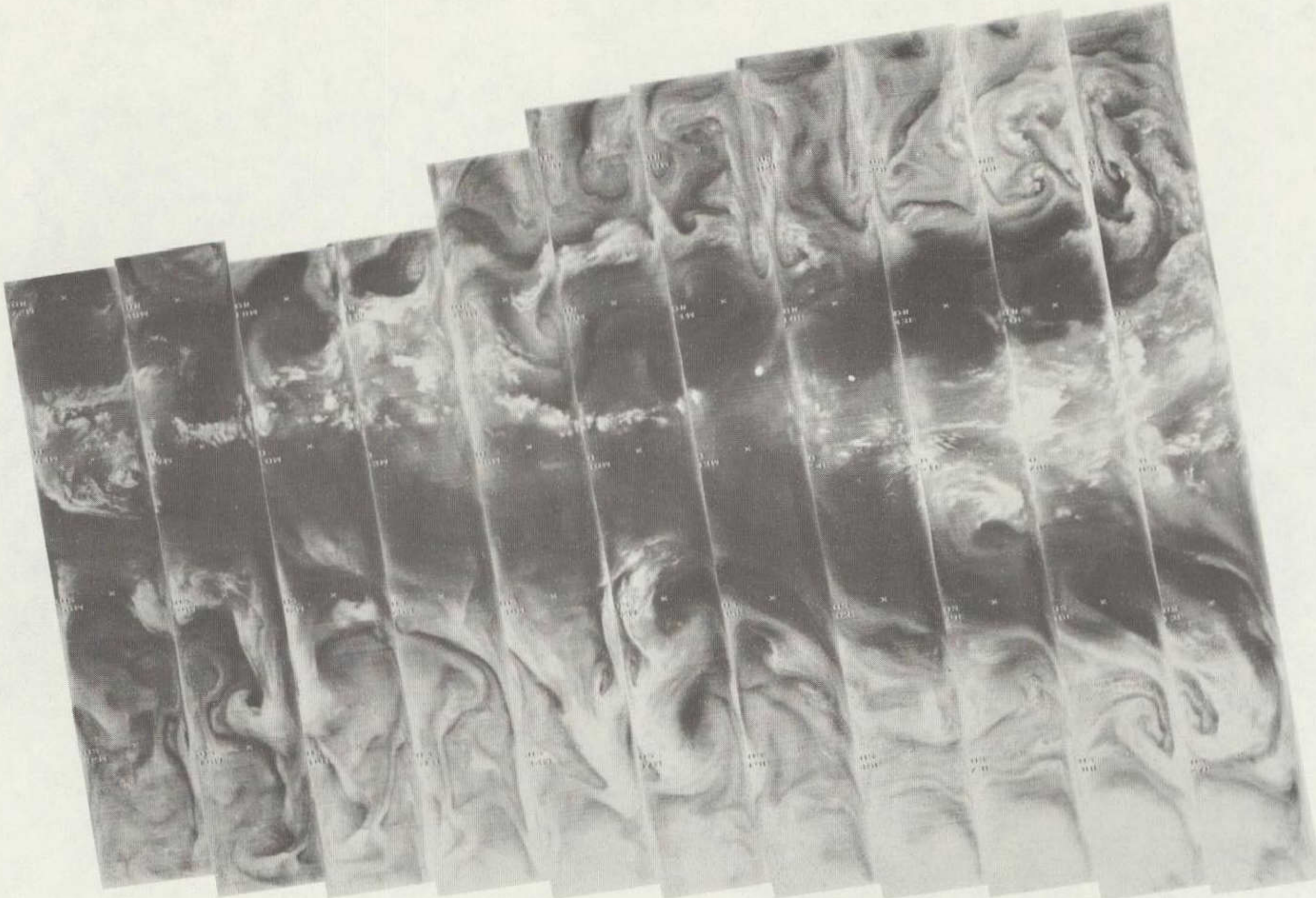
5 JUL 76

6.7 μm

5222 5221 5220 5219 5218 5217 5216 5215 5214 5213 5212 5211 5210 5209

5 JUL 76

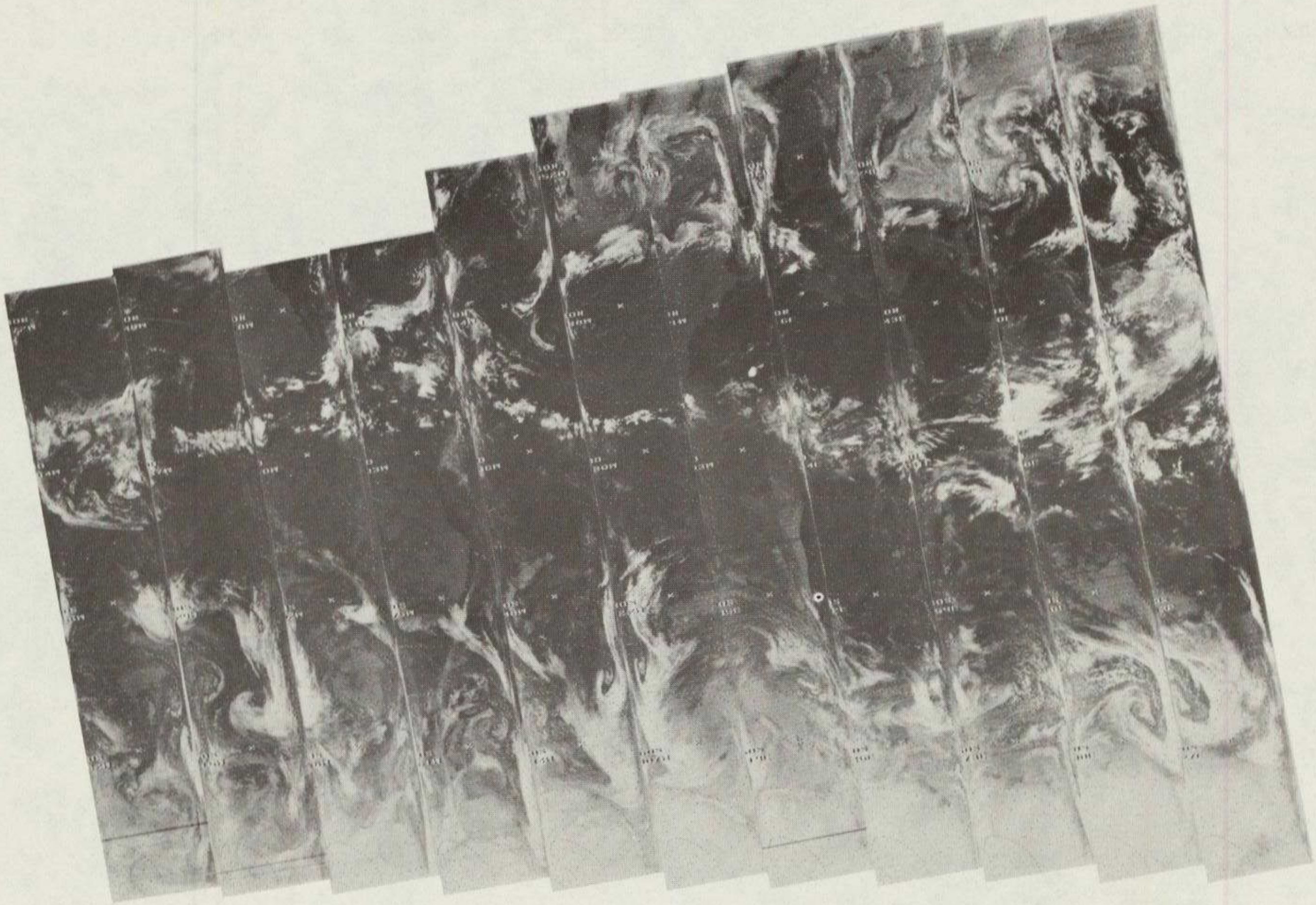
11.5 μm



5235 5234 5233 5232 5231 5230 5229 5228 5227 5226 5225 5224 5223

6 JUL 76

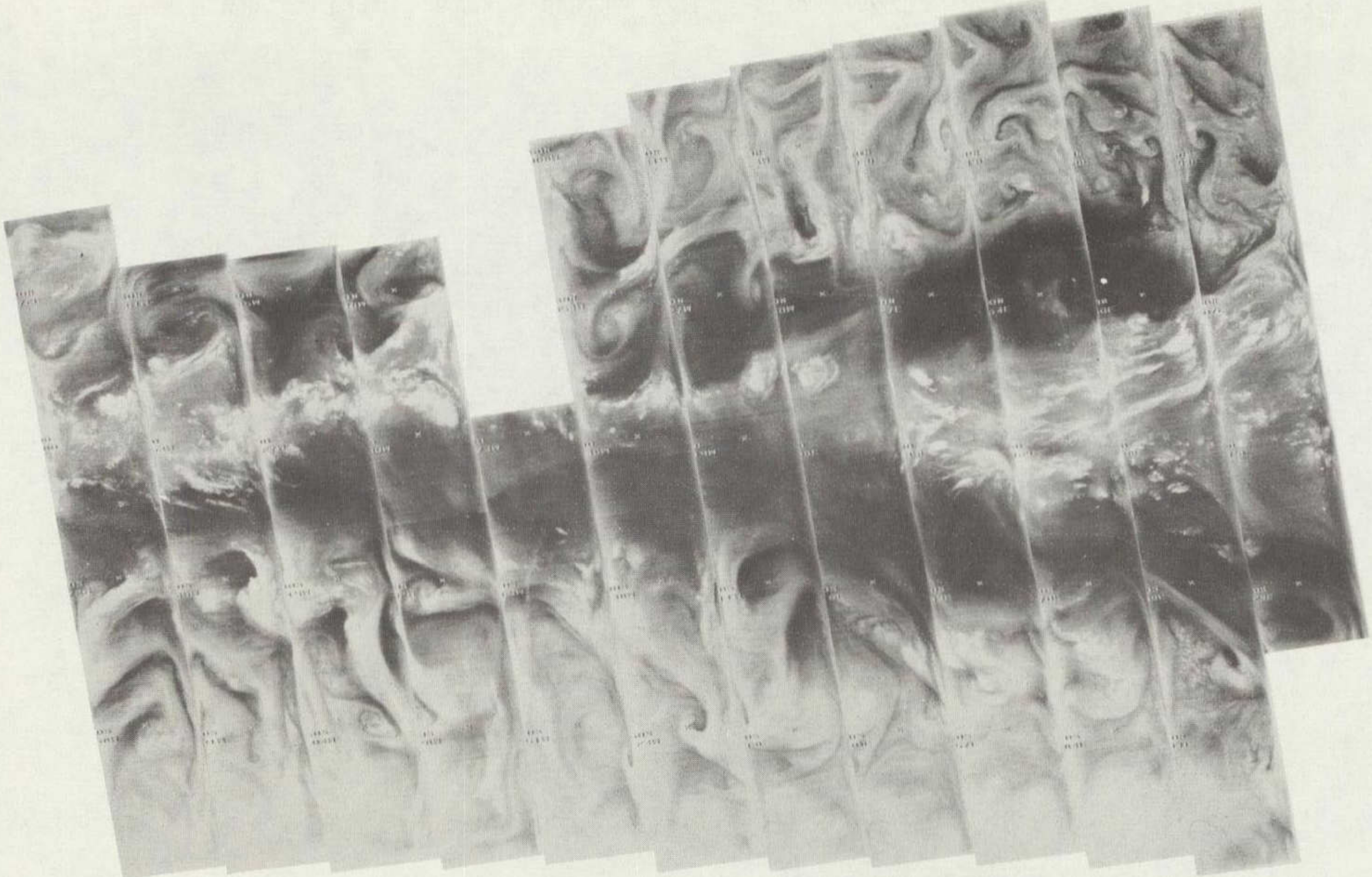
6.7 μm



5235 5234 5233 5232 5231 5230 5229 5228 5227 5226 5225 5224 5223

6 JUL 76

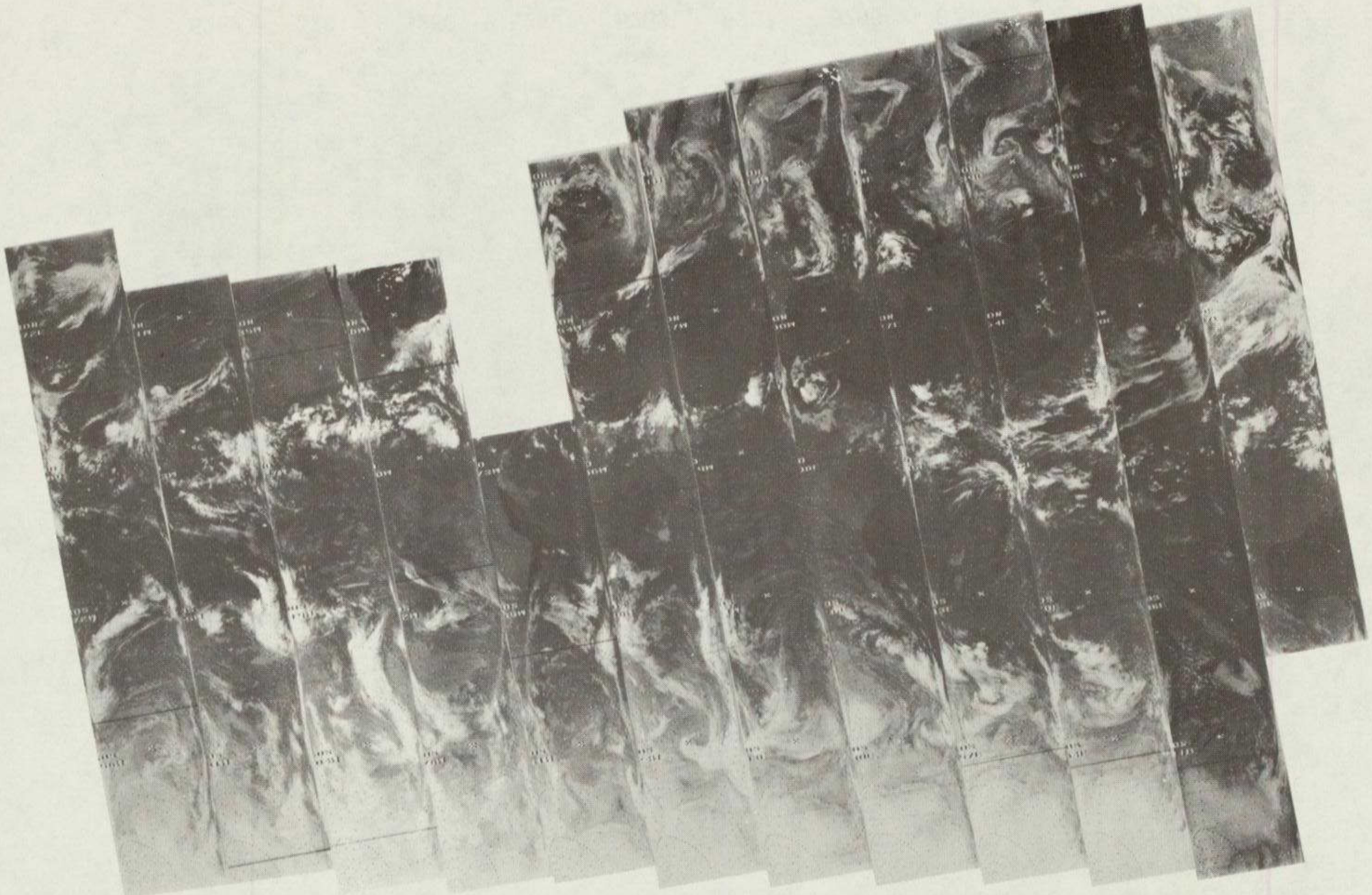
11.5 μm



5249 5248 5247 5246 5245 5244 5243 5242 5241 5240 5239 5238 5237 5236

7 JUL 76

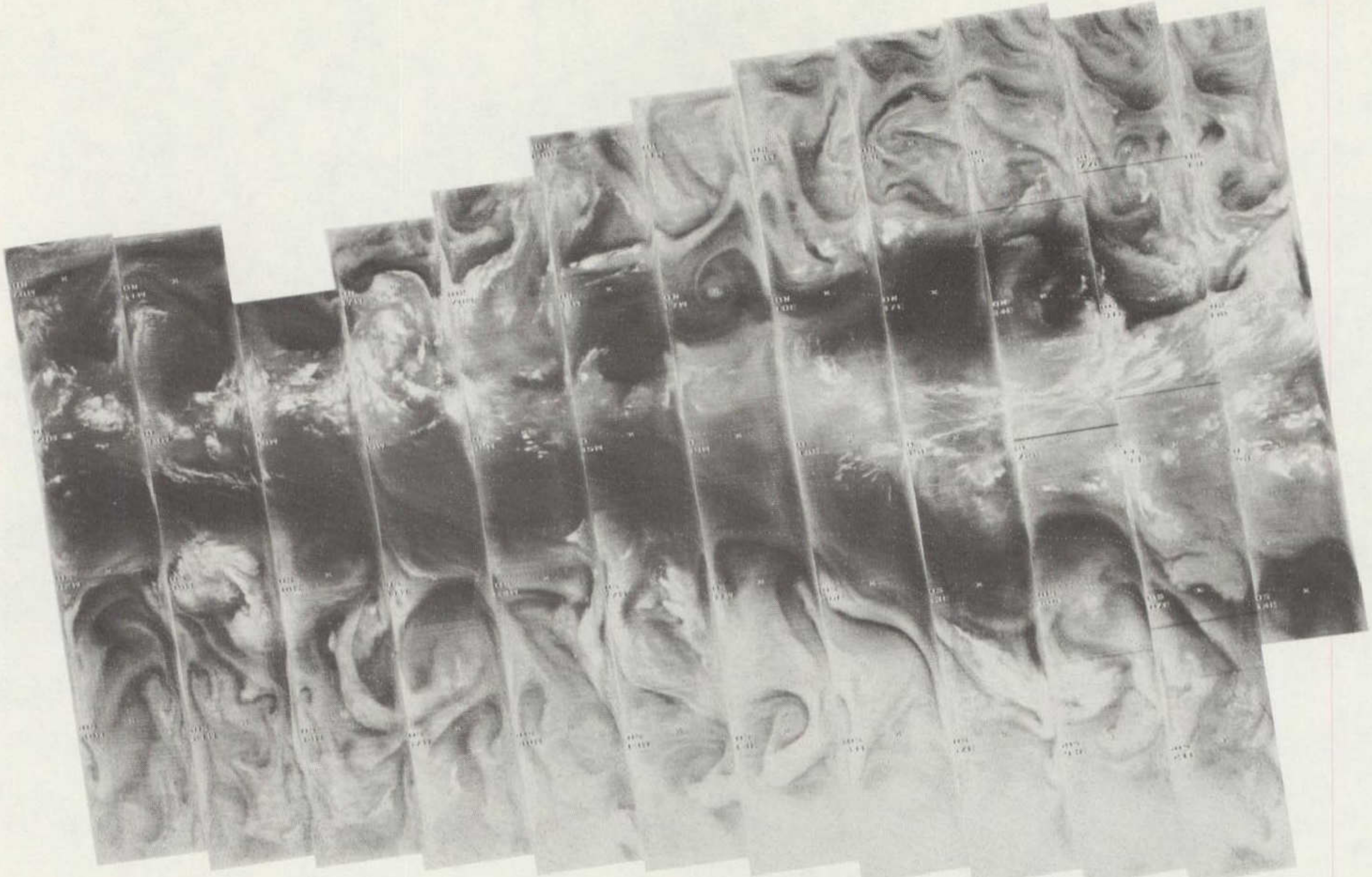
6.7 μm



5249 5248 5247 5246 5245 5244 5243 5242 5241 5240 5239 5238 5237 5236

7 JUL 76

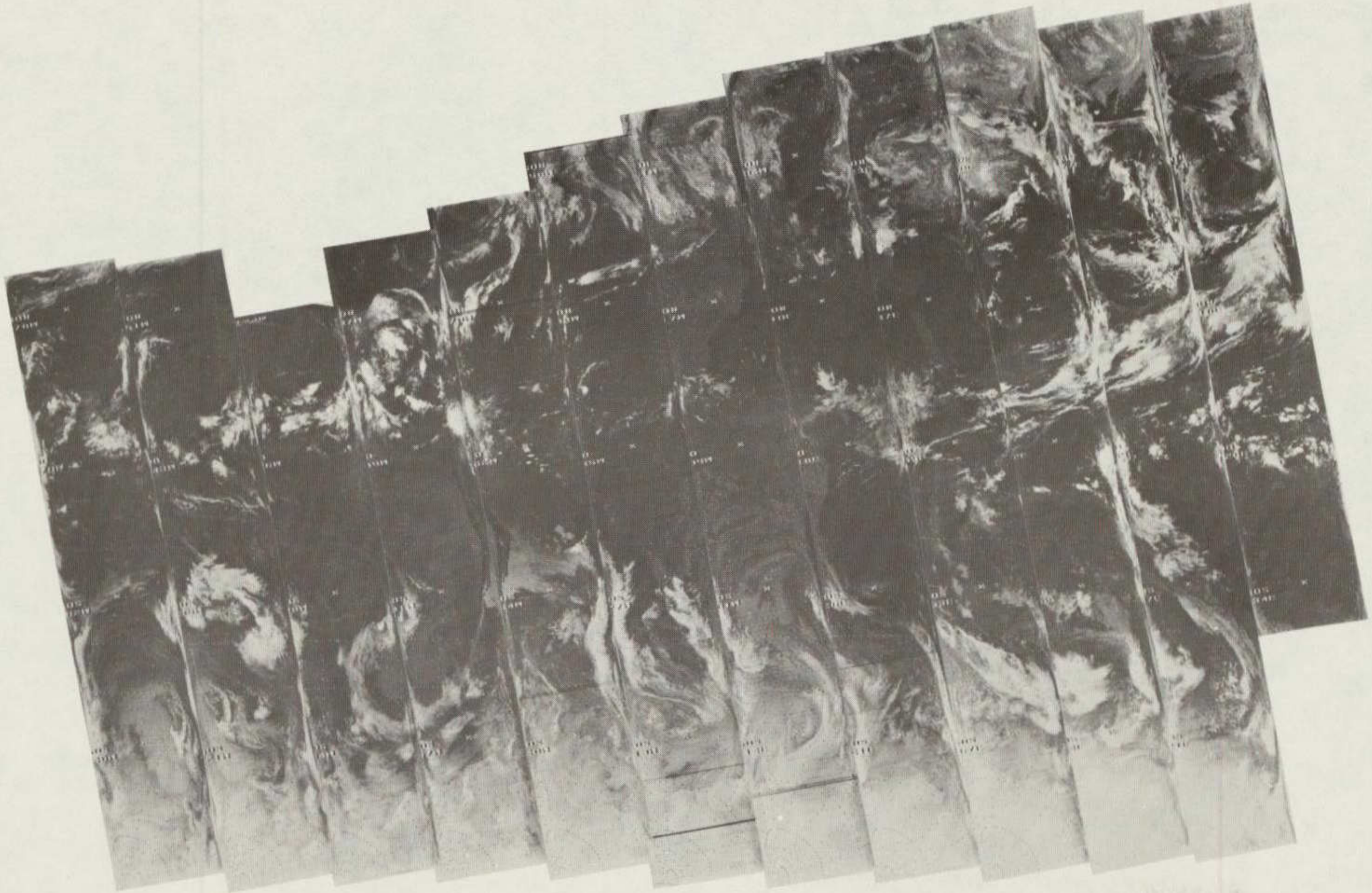
11.5 μm



5262 5261 5260 5259 5258 5257 5256 5255 5254 5253 5252 5251 5250

8 JUL 76

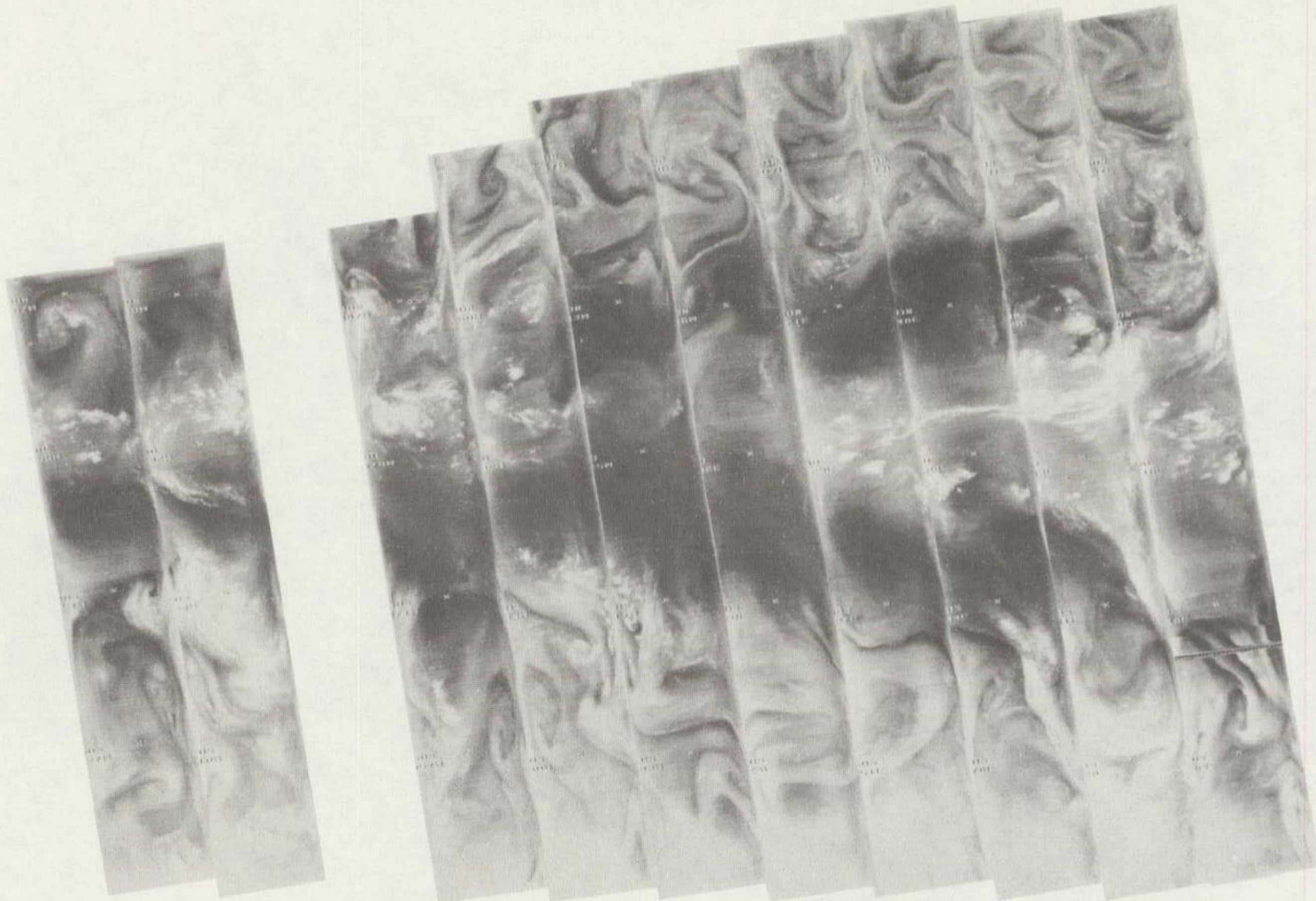
6.7 μm



5262 5261 5260 5259 5258 5257 5256 5255 5254 5253 5252 5251 5250

8 JUL 76

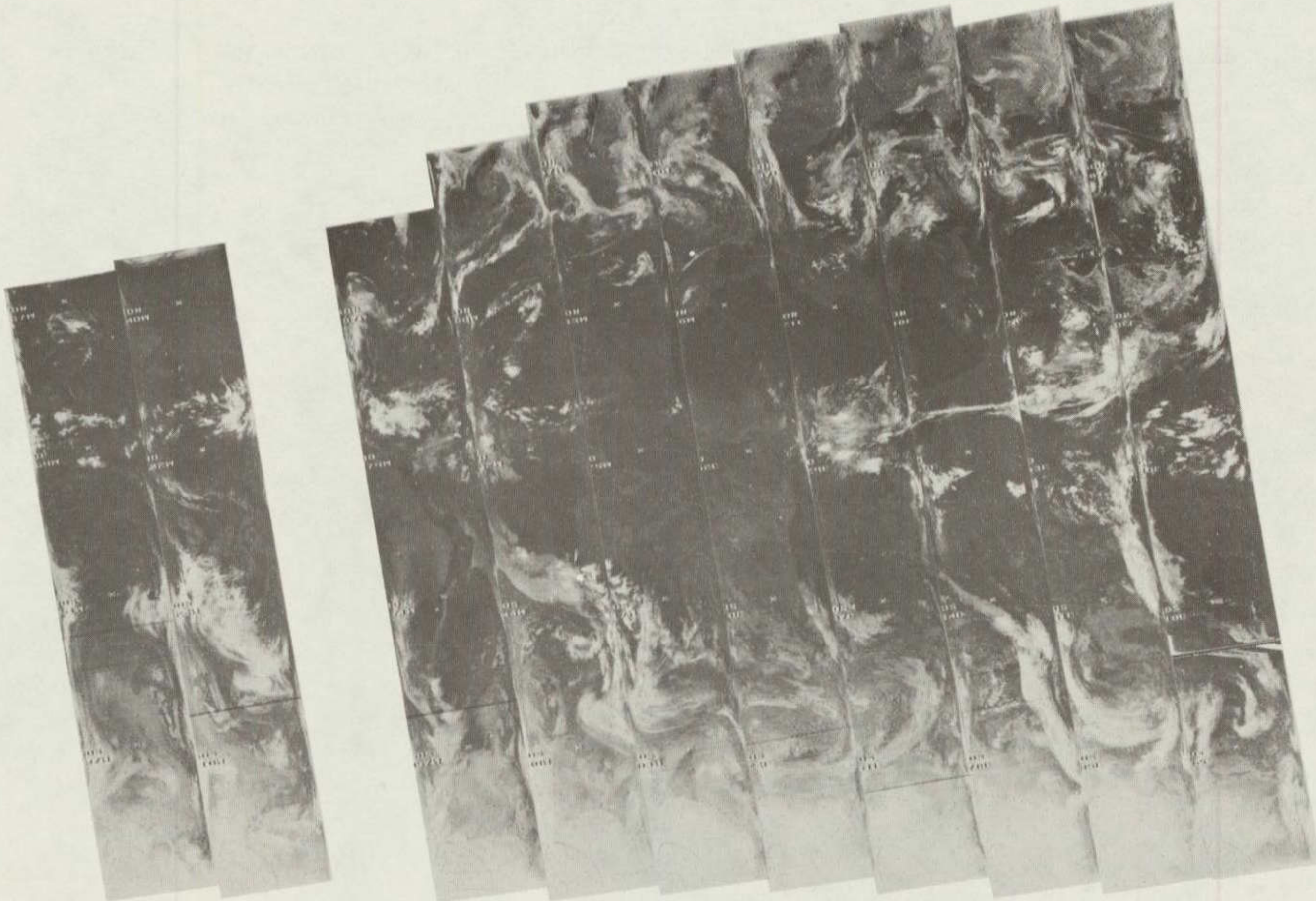
11.5 μm



5275 5274 5273 5272 5271 5270 5269 5268 5267 5266 5265 5264 5263

9 JUL 76

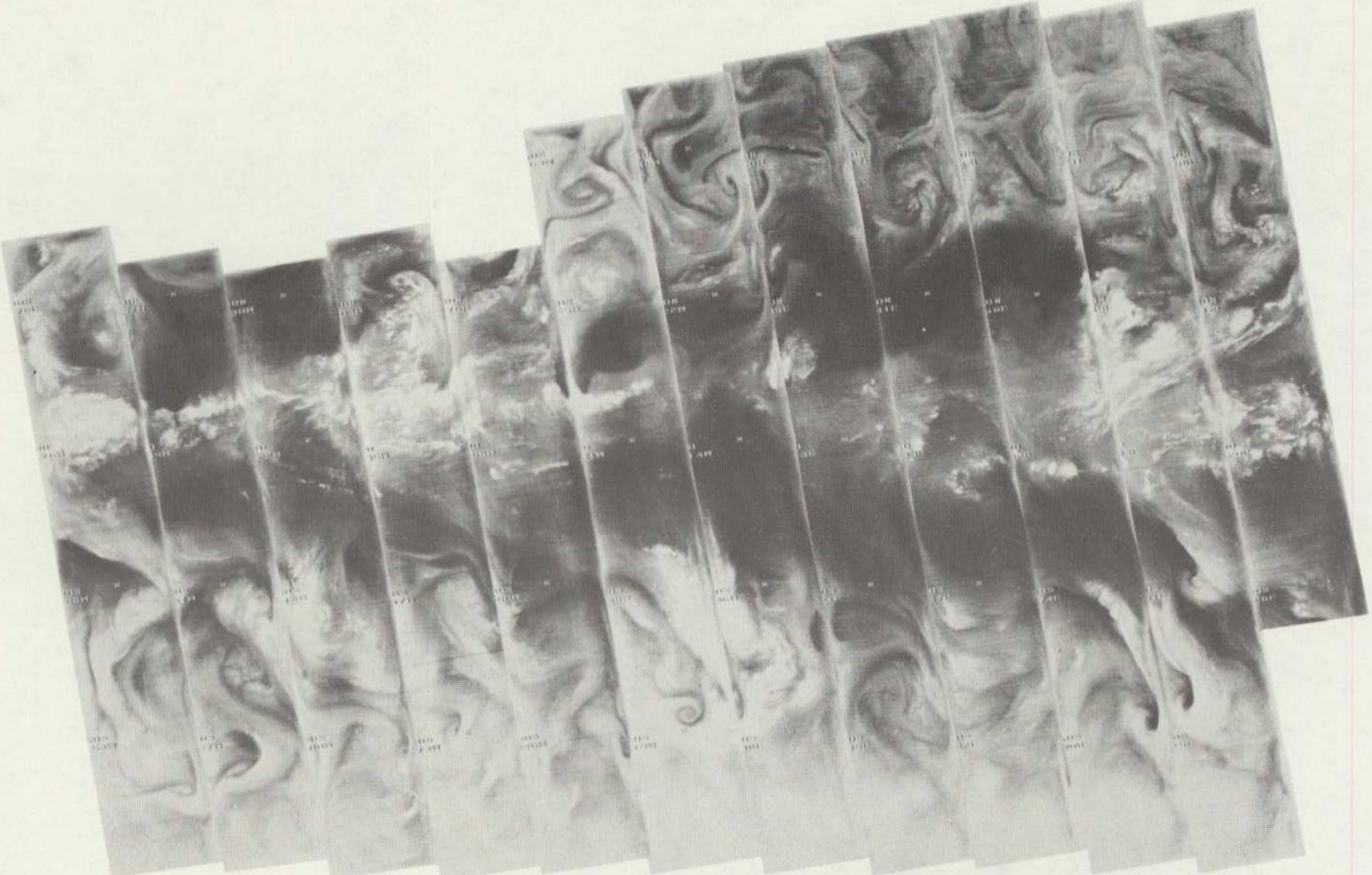
6.7 μm



5275 5274 5273 5272 5271 5270 5269 5268 5267 5266 5265 5264 5263

9 JUL 76

11.5 μm



5289 5288 5287 5286 5285 5284 5283 5282 5281 5280 5279 5278 5277 5276

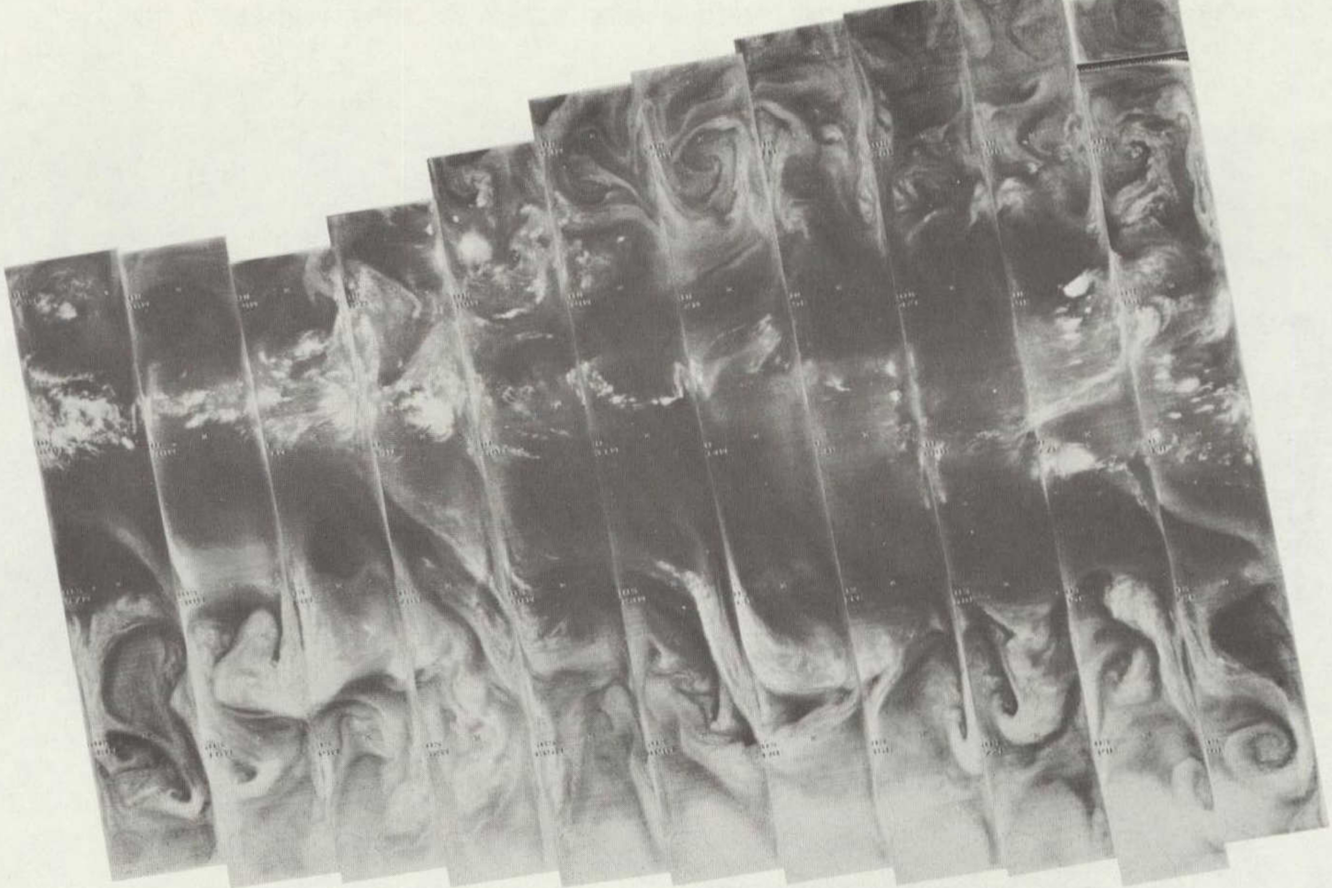
10 JUL 76

6.7 μm

5289 5288 5287 5286 5285 5284 5283 5282 5281 5280 5279 5278 5277 5276

10 JUL 76

11.5 μm



5302 5301 5300 5299 5298 5297 5296 5295 5294 5293 5292 5291 5290

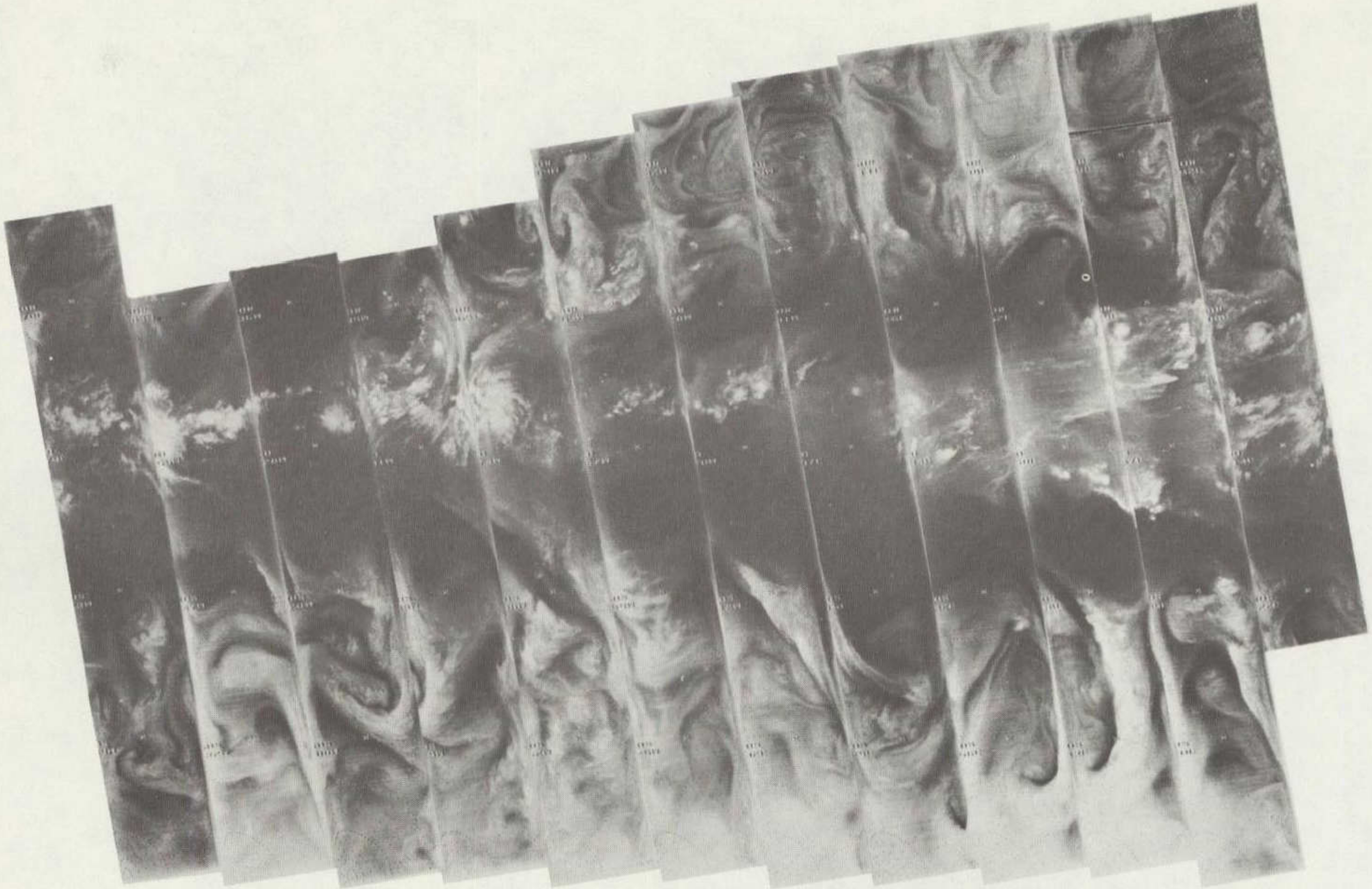
11 JUL 76

6.7 μm

5302 5301 5300 5299 5298 5297 5296 5295 5294 5293 5292 5291 5290

11 JUL 76

11.5 μm



5316 5315 5314 5313 5312 5311 5310 5309 5308 5307 5306 5305 5304 5303

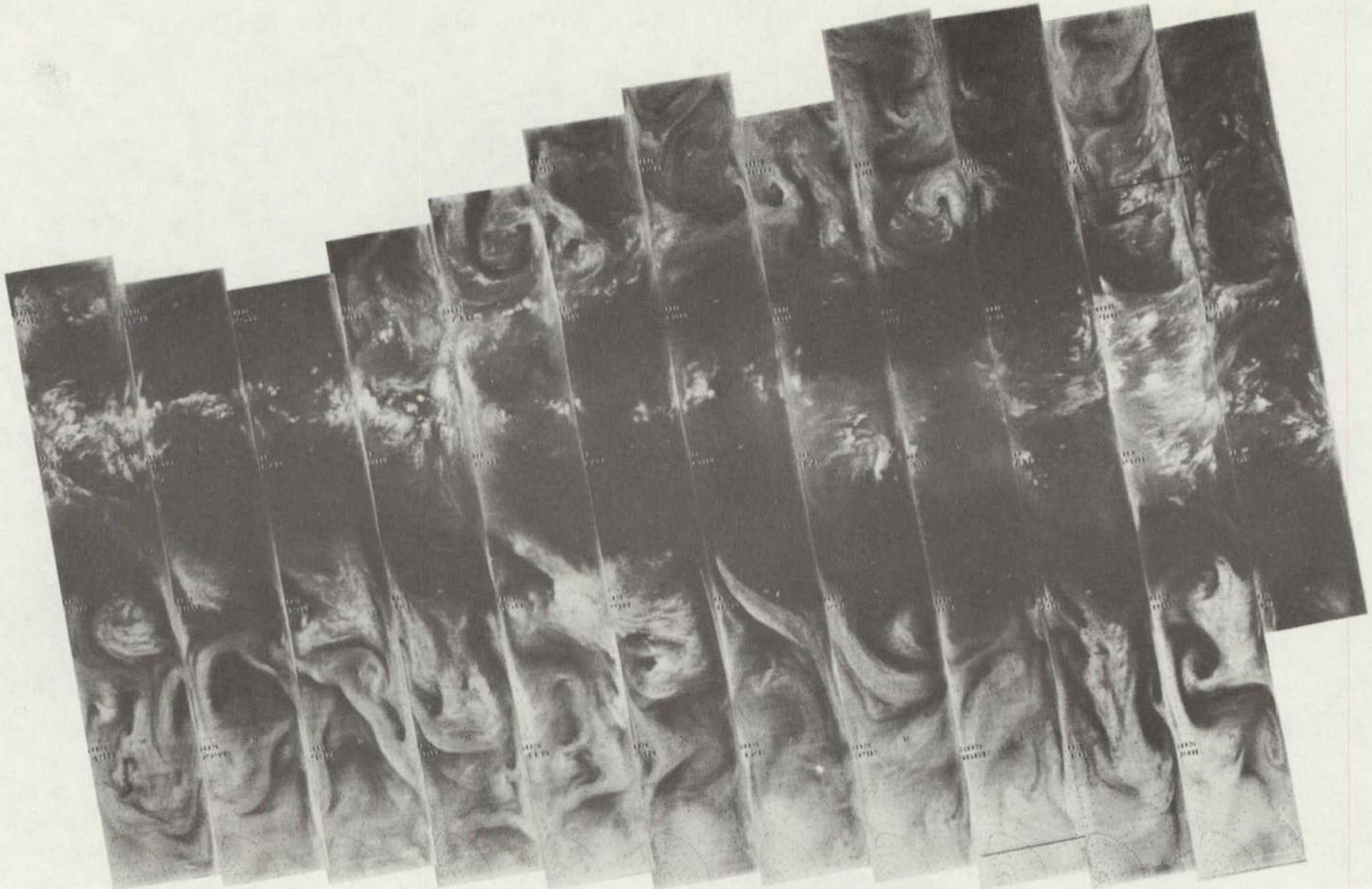
12 JUL 76

6.7 μm

5316 5315 5314 5313 5312 5311 5310 5309 5308 5307 5306 5305 5304 5303

12 JUL 76

11.5 μm



5329 5328 5327 5326 5325 5324 5323 5322 5321 5320 5319 5318 5317

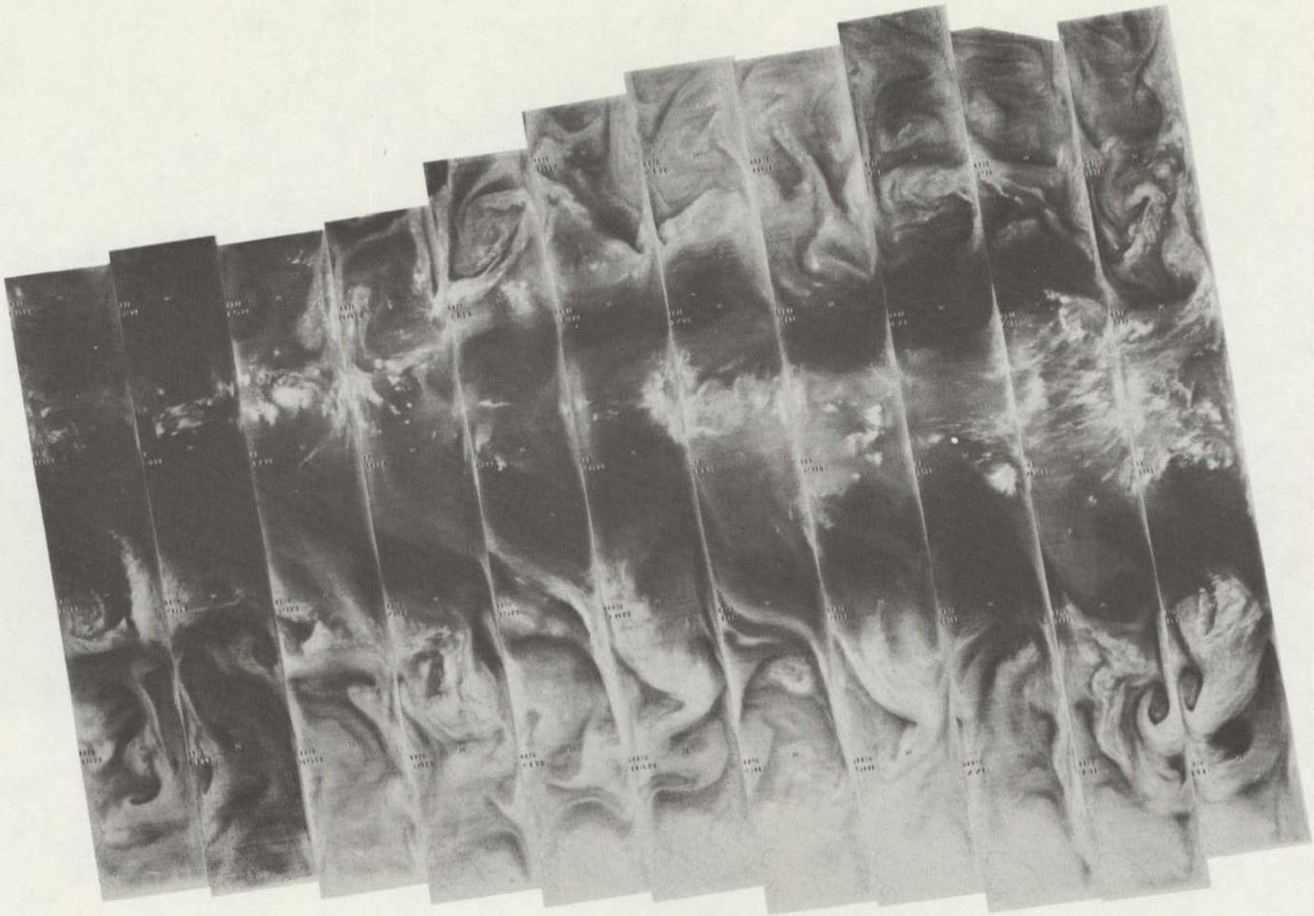
13 JUL 76

6.7 μm

5329 5328 5327 5326 5325 5324 5323 5322 5321 5320 5319 5318 5317

13 JUL 76

11.5 μm



5342 5341 5340 5339 5338 5337 5336 5335 5334 5333 5332 5331 5330

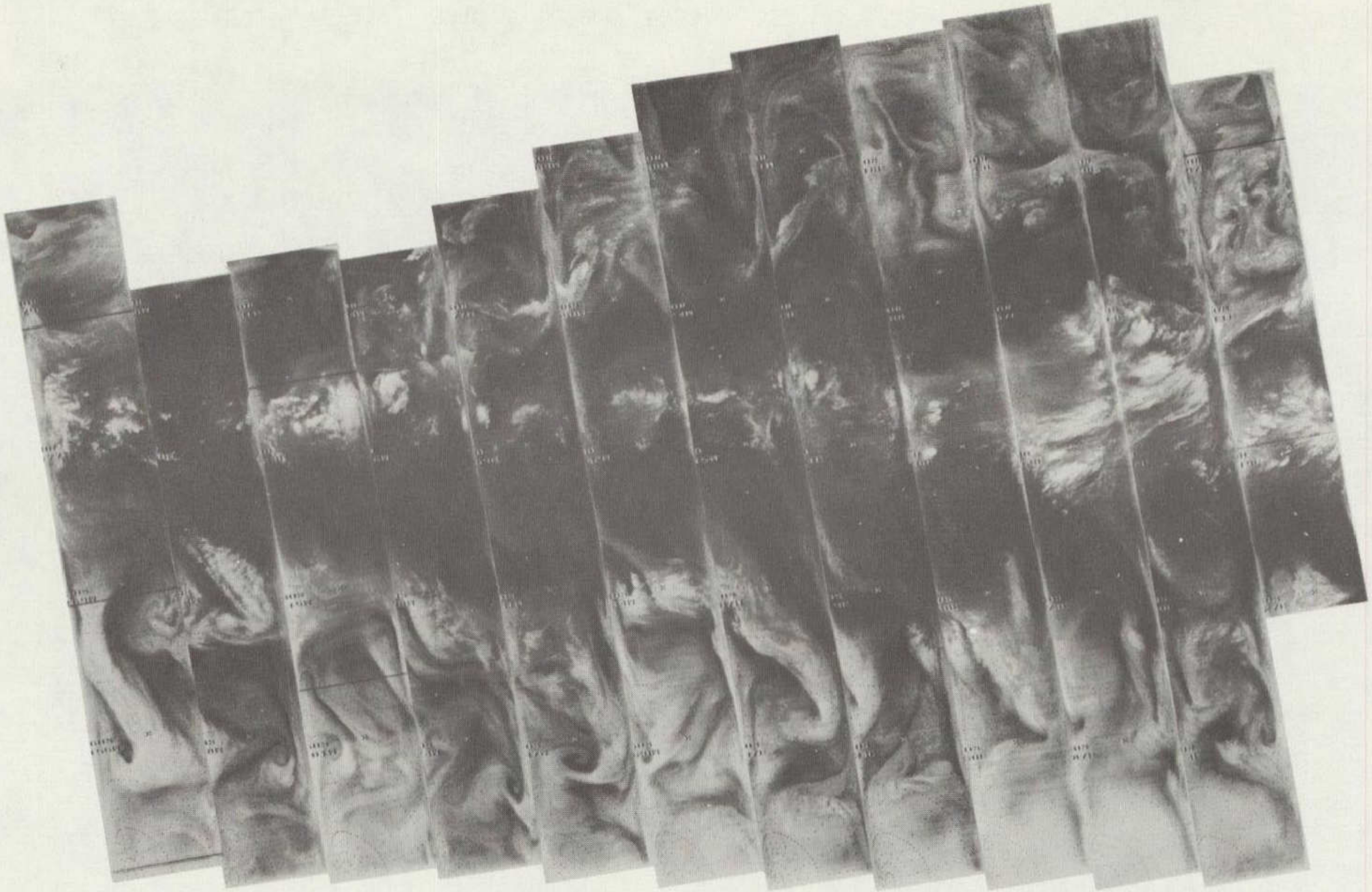
14 JUL 76

6.7 μm

5342 5341 5340 5339 5338 5337 5336 5335 5334 5333 5332 5331 5330

14 JUL 76

11.5 μm



5356 5355 5354 5353 5352 5351 5350 5349 5348 5347 5346 5345 5344 5343

15 JUL 76

6.7 μm

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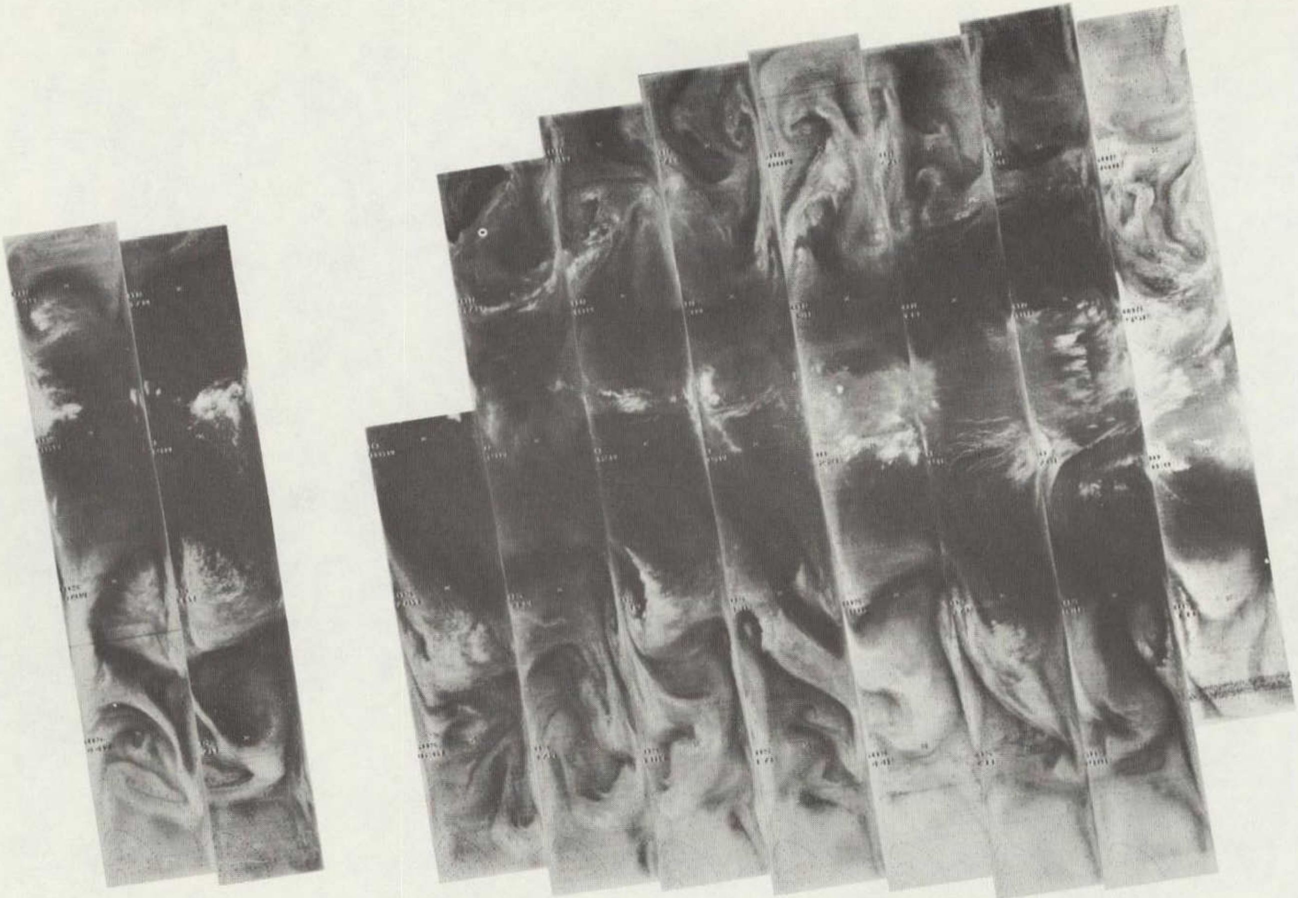
15 JUL 76

11.5 μm



5369 5368 5367 5366 5365 5364 5363 5362 5361 5360 5359 5358 5357

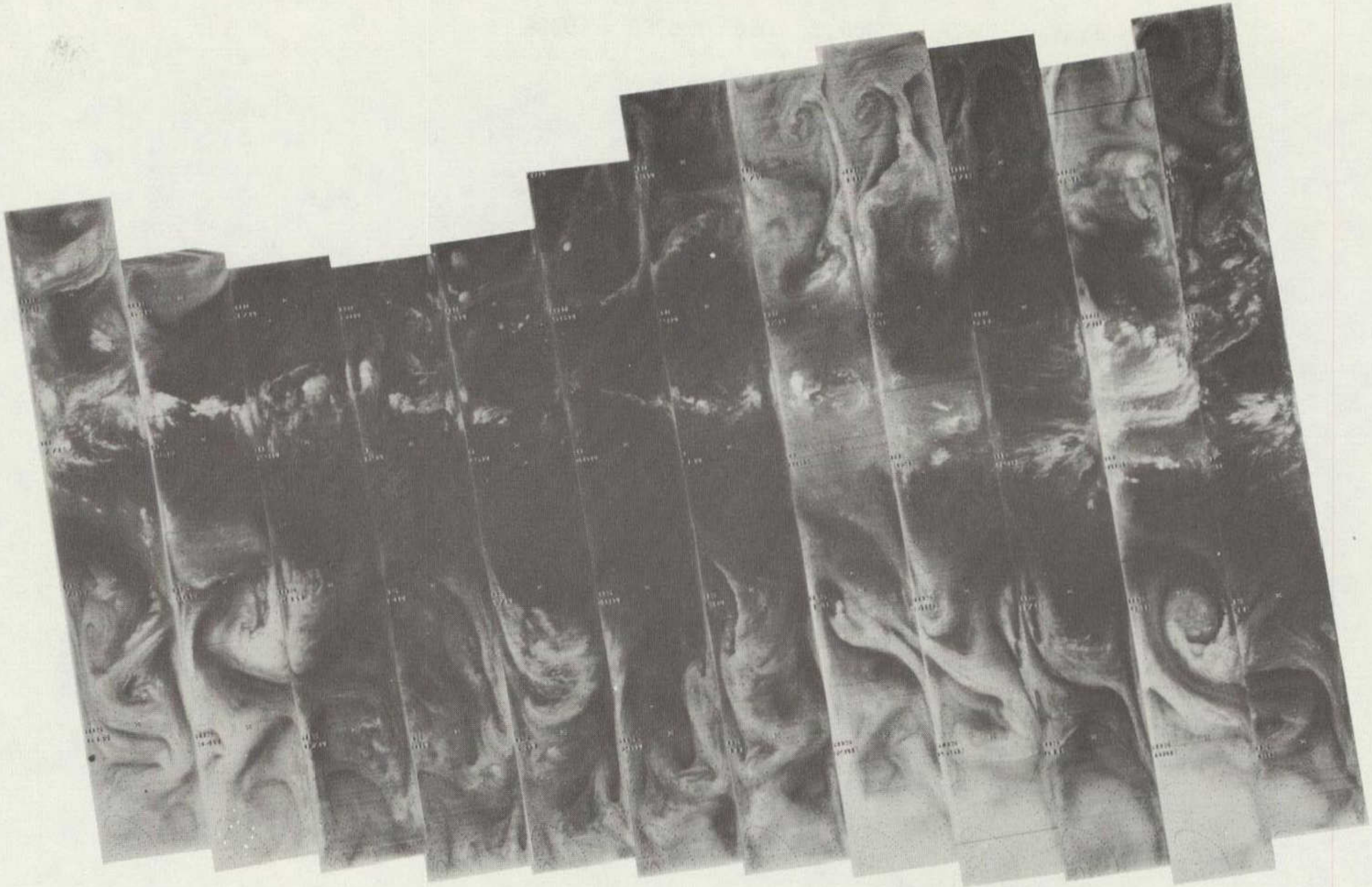
16 JUL 76

6.7 μm

5369 5368 5367 5366 5365 5364 5363 5362 5361 5360 5359 5358 5357

16 JUL 76

11.5 μm



5383 5382 5381 5380 5379 5378 5377 5376 5375 5374 5373 5372 5371 5370

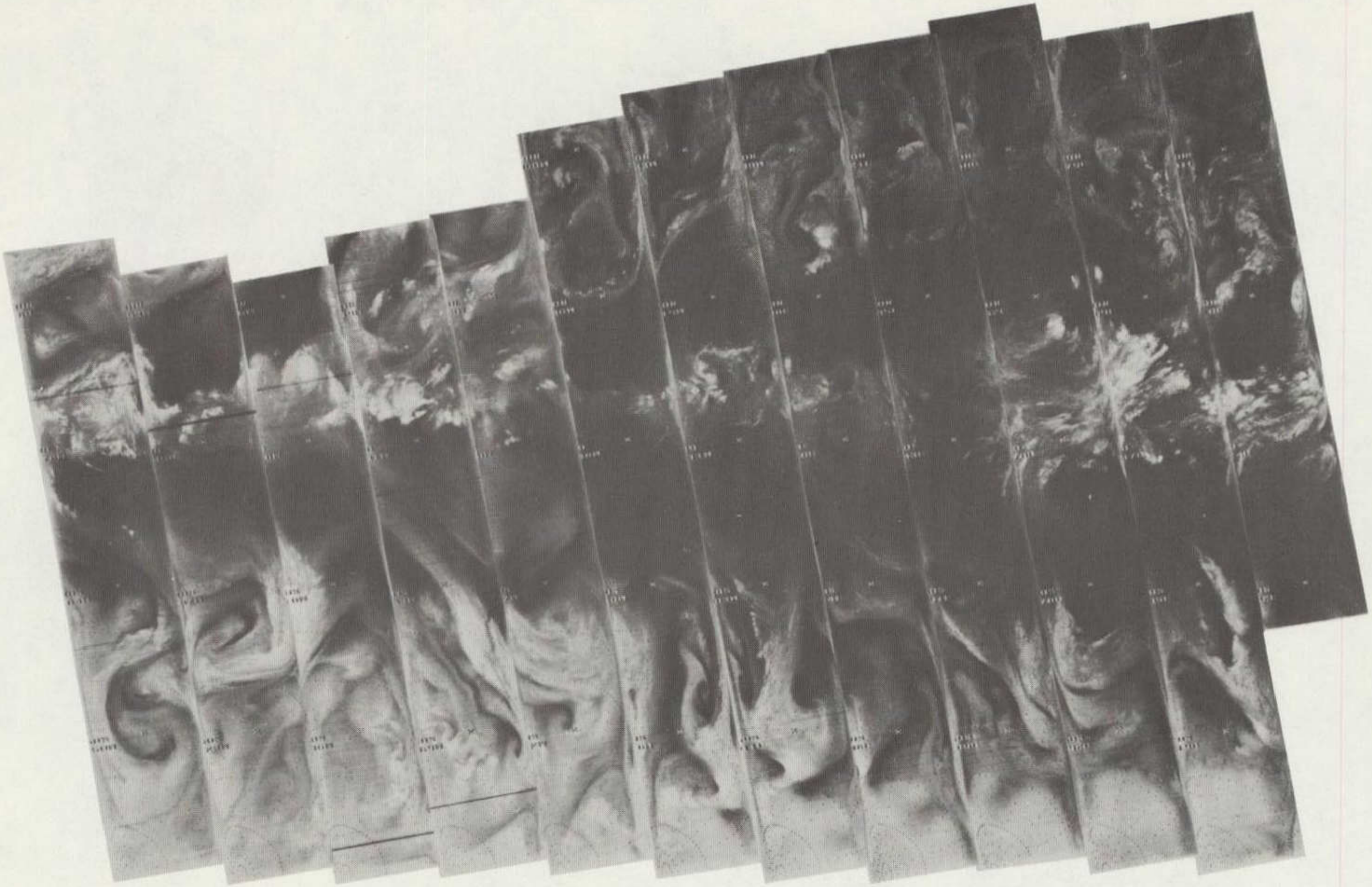
17 JUL 76

6.7 μm

5383 5382 5381 5380 5379 5378 5377 5376 5375 5374 5373 5372 5371 5370

17 JUL 76

11.5 μm



5396 5395 5394 5393 5392 5391 5390 5389 5388 5387 5386 5385 5384

18 JUL 76

6.7 μm

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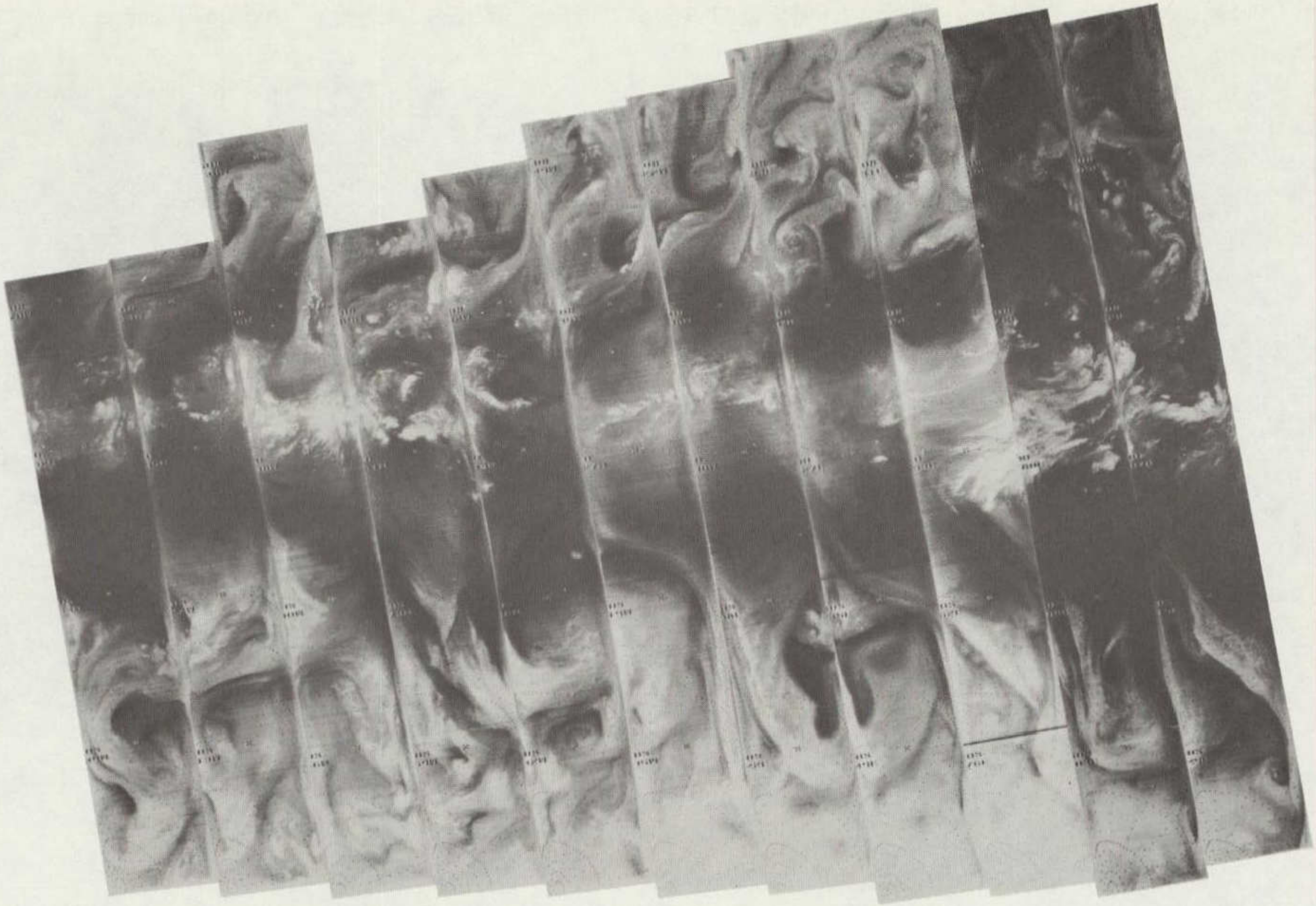
18 JUL 76

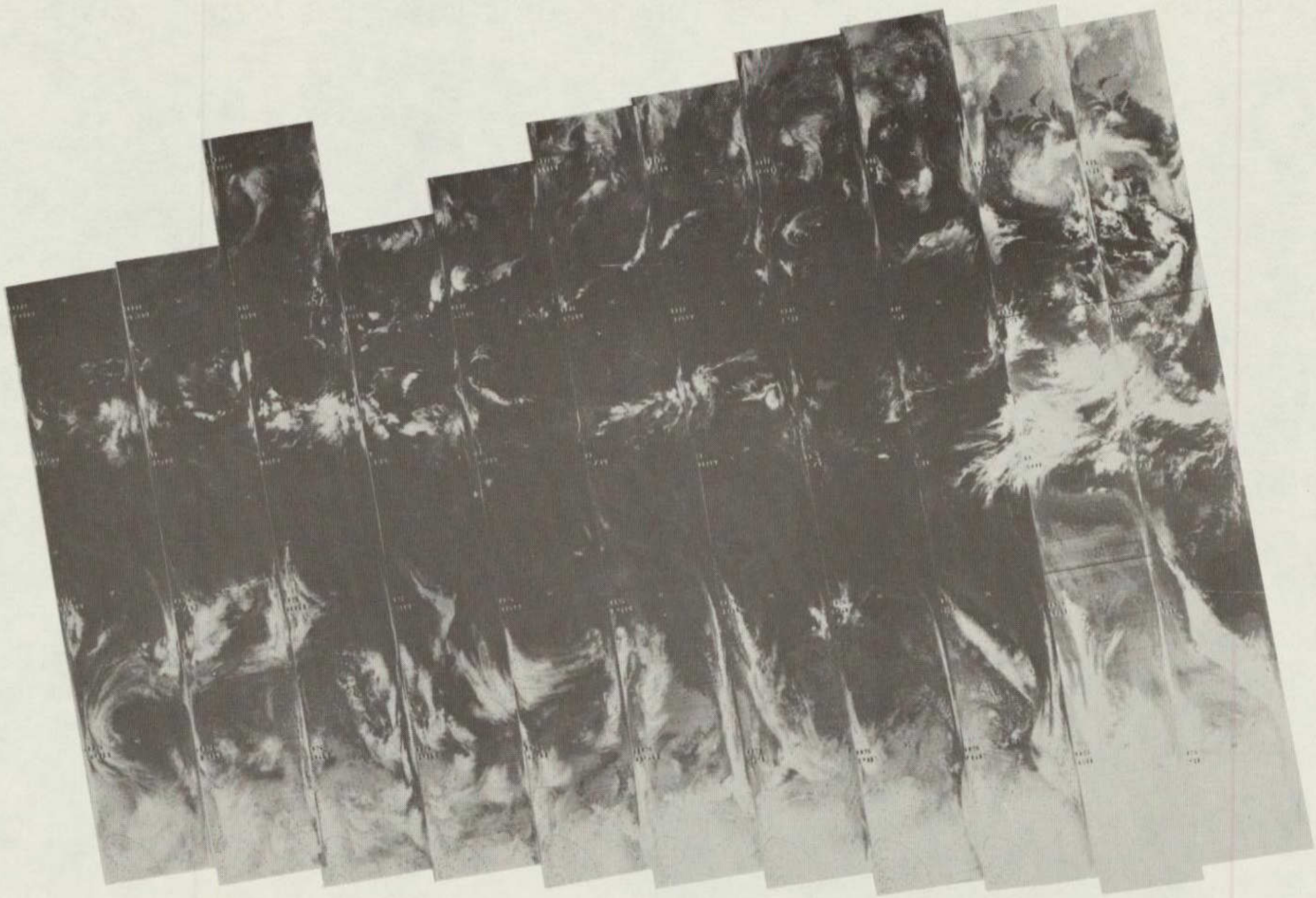
11.5 μm



5409 5408 5407 5406 5405 5404 5403 5402 5401 5400 5399 5398 5397

19 JUL 76

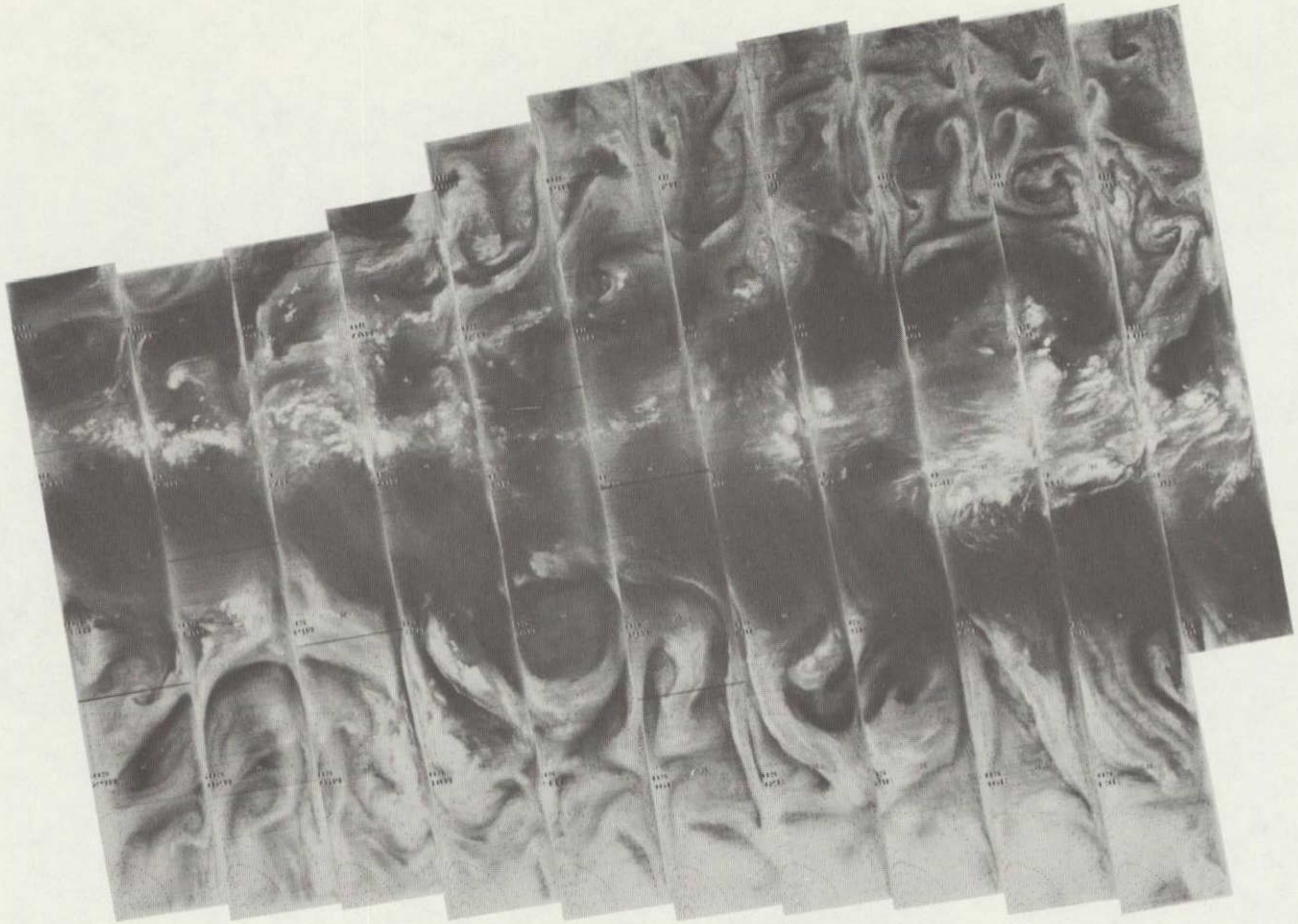
6.7 μm



5409 5408 5407 5406 5405 5404 5403 5402 5401 5400 5399 5398 5397

19 JUL 76

11.5 μm



5423 5422 5421 5420 5419 5418 5417 5416 5415 5414 5413 5412 5411 5410

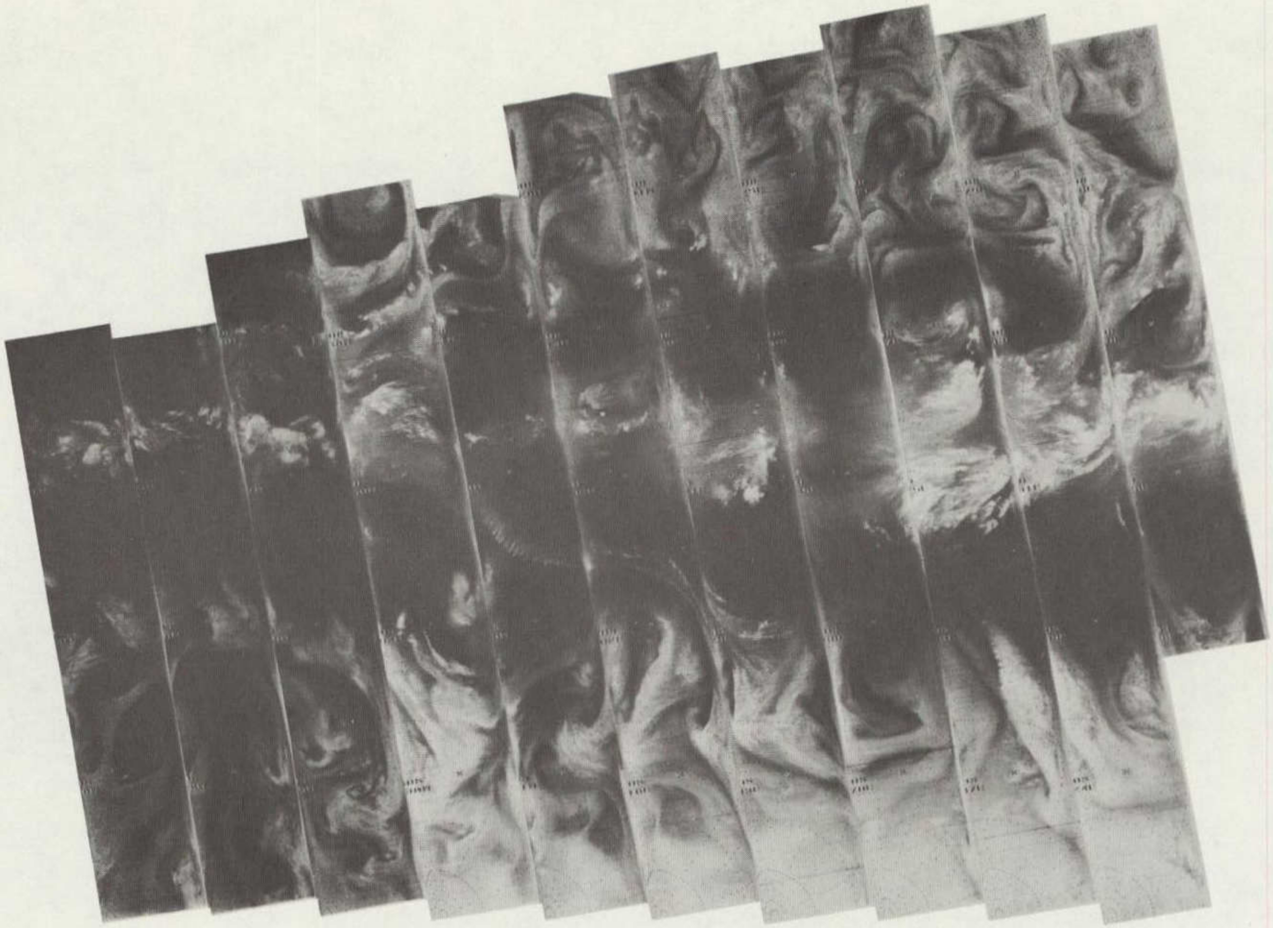
20 JUL 76

6.7 μm

5423 5422 5421 5420 5419 5418 5417 5416 5415 5414 5413 5412 5411 5410

20 JUL 76

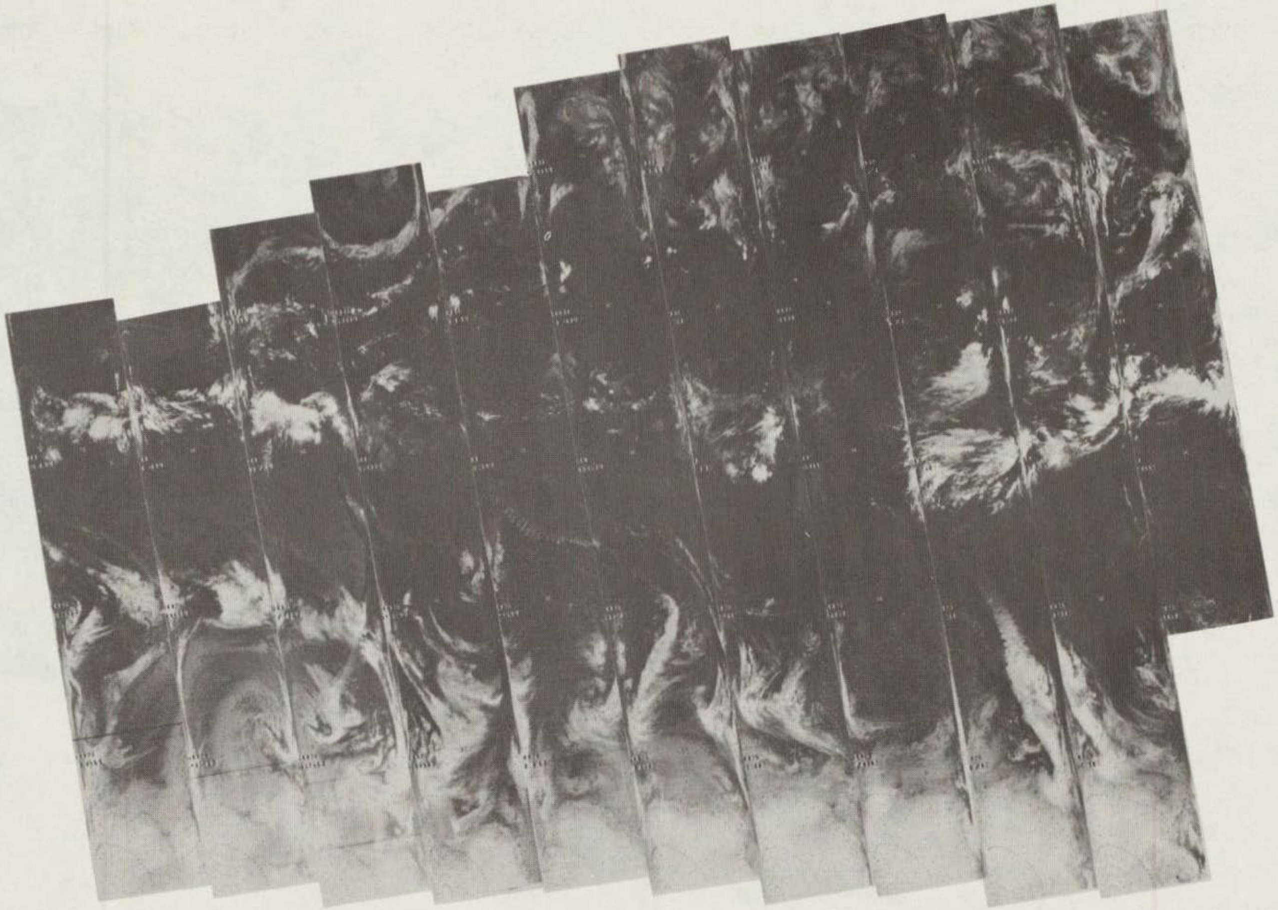
11.5 μm



5436 5435 5434 5433 5432 5431 5430 5429 5428 5427 5426 5425 5424

21 JUL 76

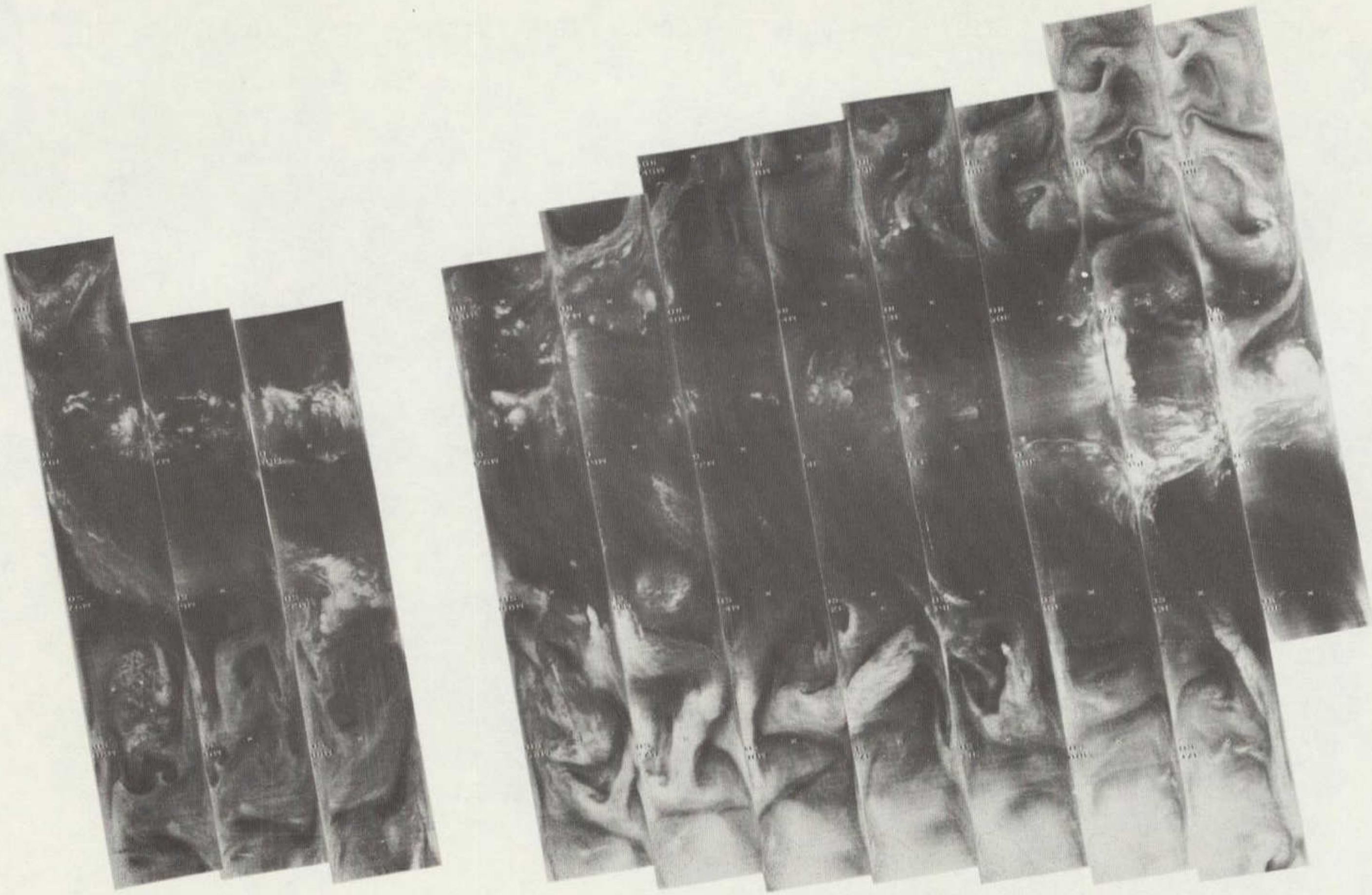
6.7 μm



5436 5435 5434 5433 5432 5431 5430 5429 5428 5427 5426 5425 5424

21 JUL 76

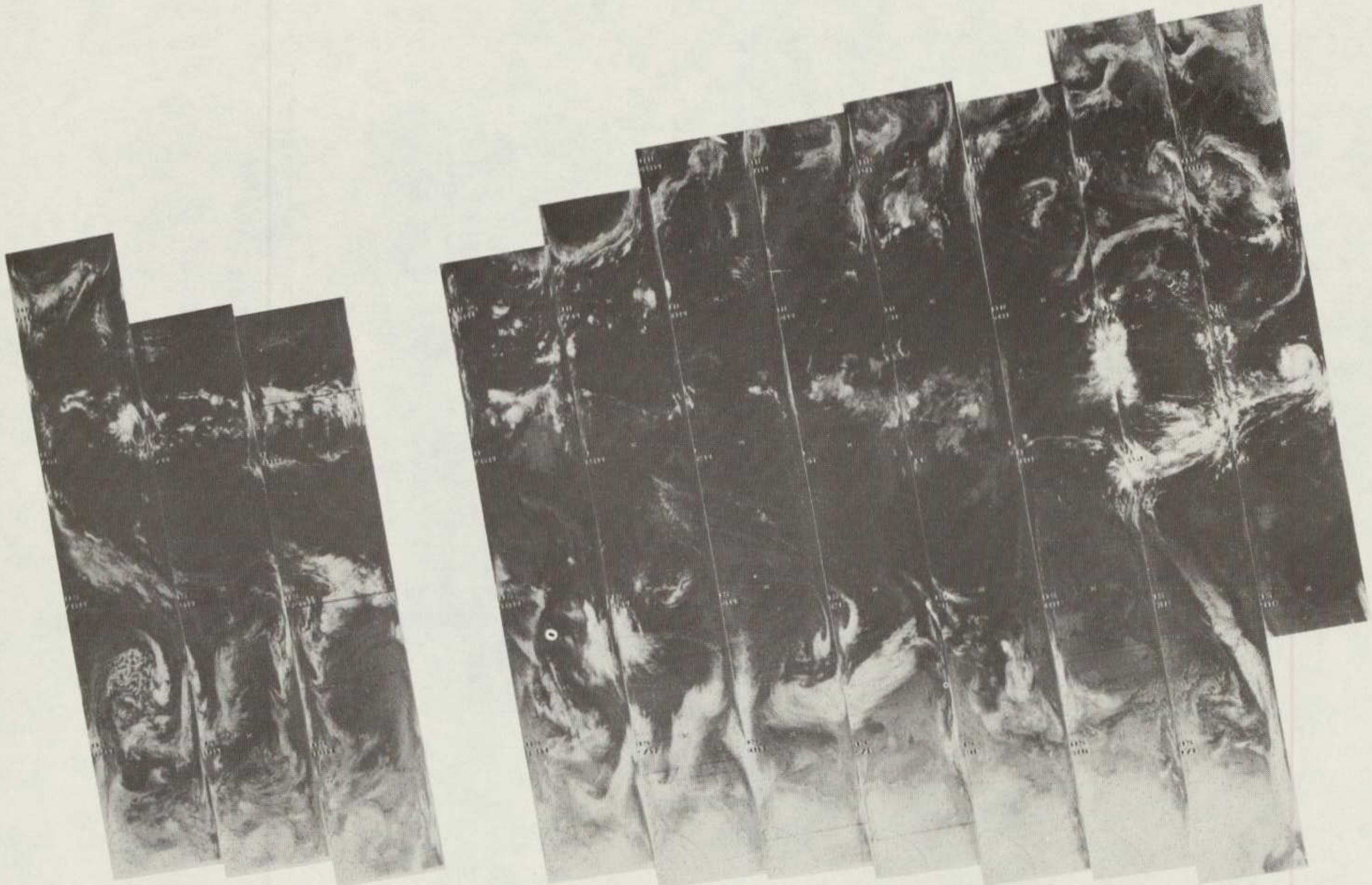
11.5 μm



5450 5449 5448 5447 5446 5445 5444 5443 5442 5441 5440 5439 5438 5437

22 JUL 76

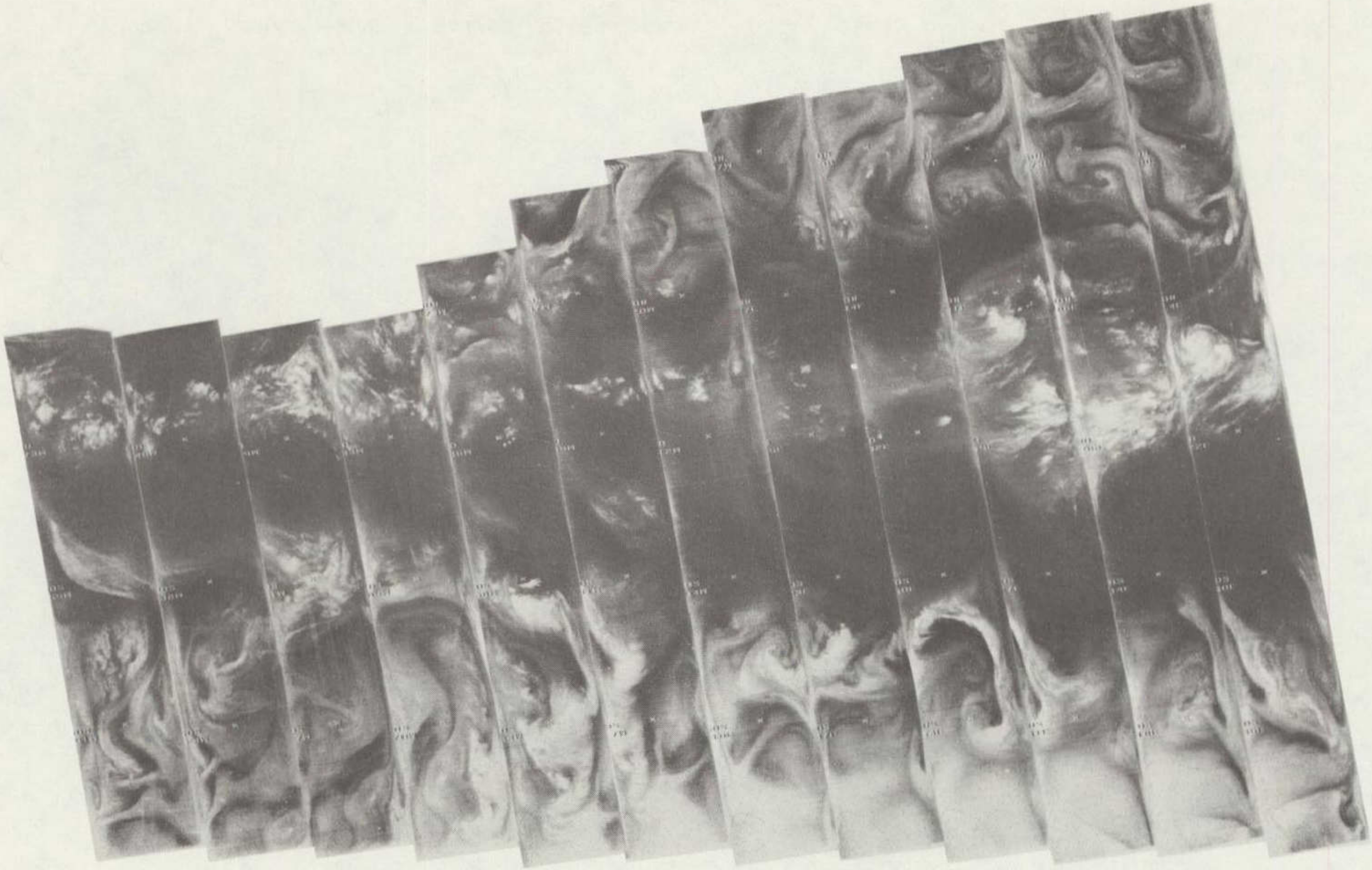
6.7 μm



5450 5449 5448 5447 5446 5445 5444 5443 5442 5441 5440 5439 5438 5437

22 JUL 76

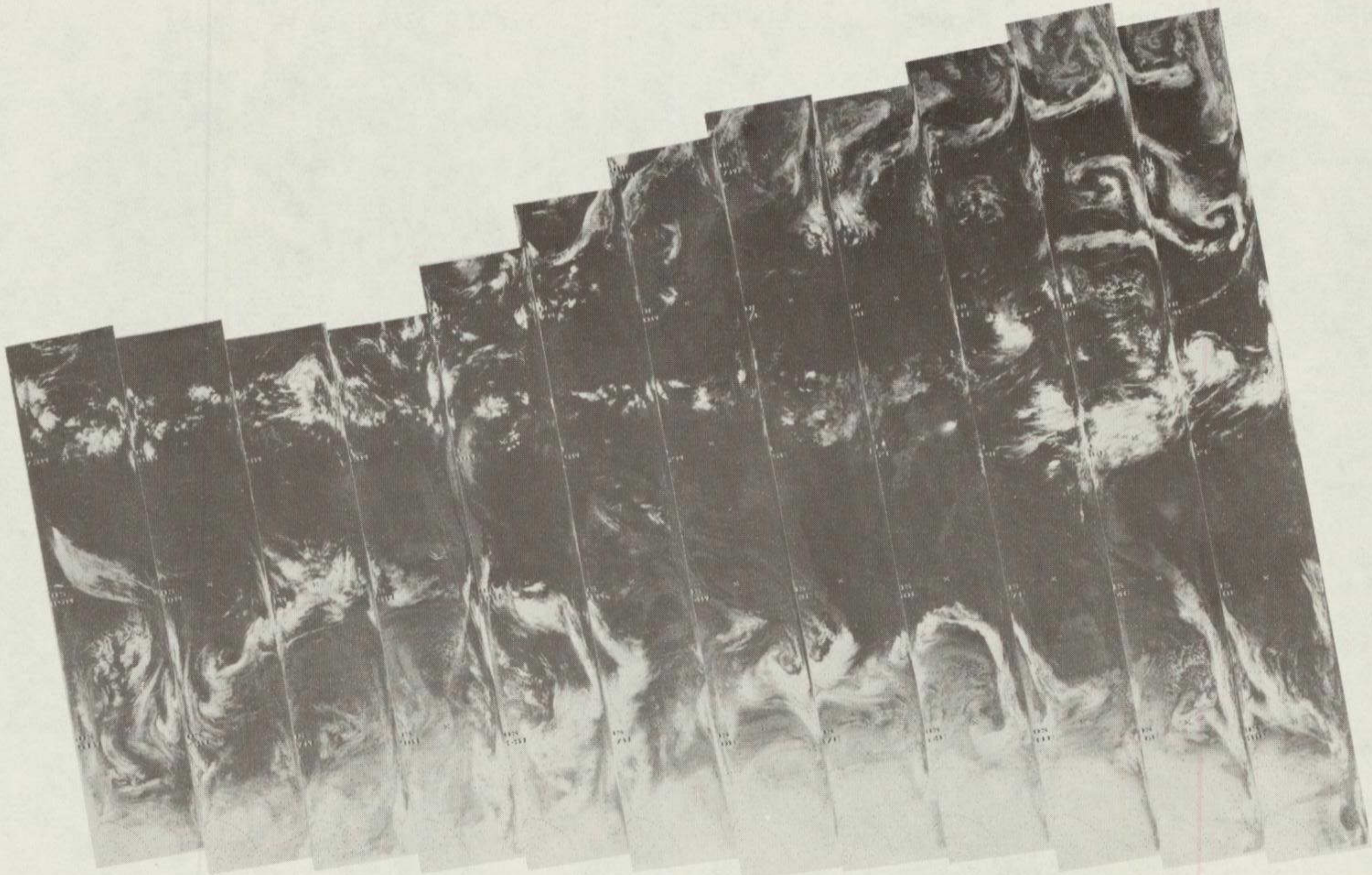
11.5 μm



5463 5462 5461 5460 5459 5458 5457 5456 5455 5454 5453 5452 5451

23 JUL 76

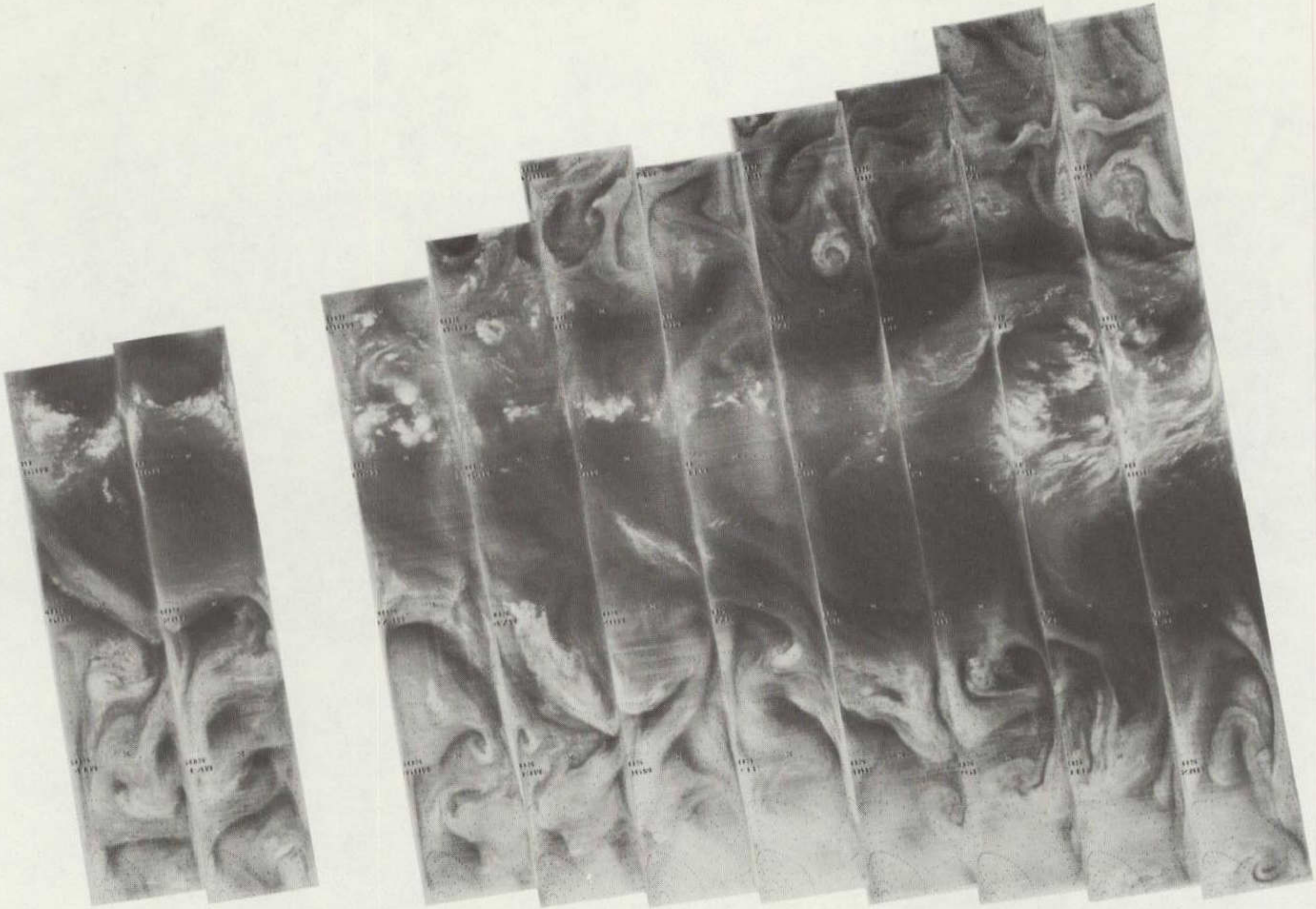
6.7 μm



5463 5462 5461 5460 5459 5458 5457 5456 5455 5454 5453 5452 5451

23 JUL 76

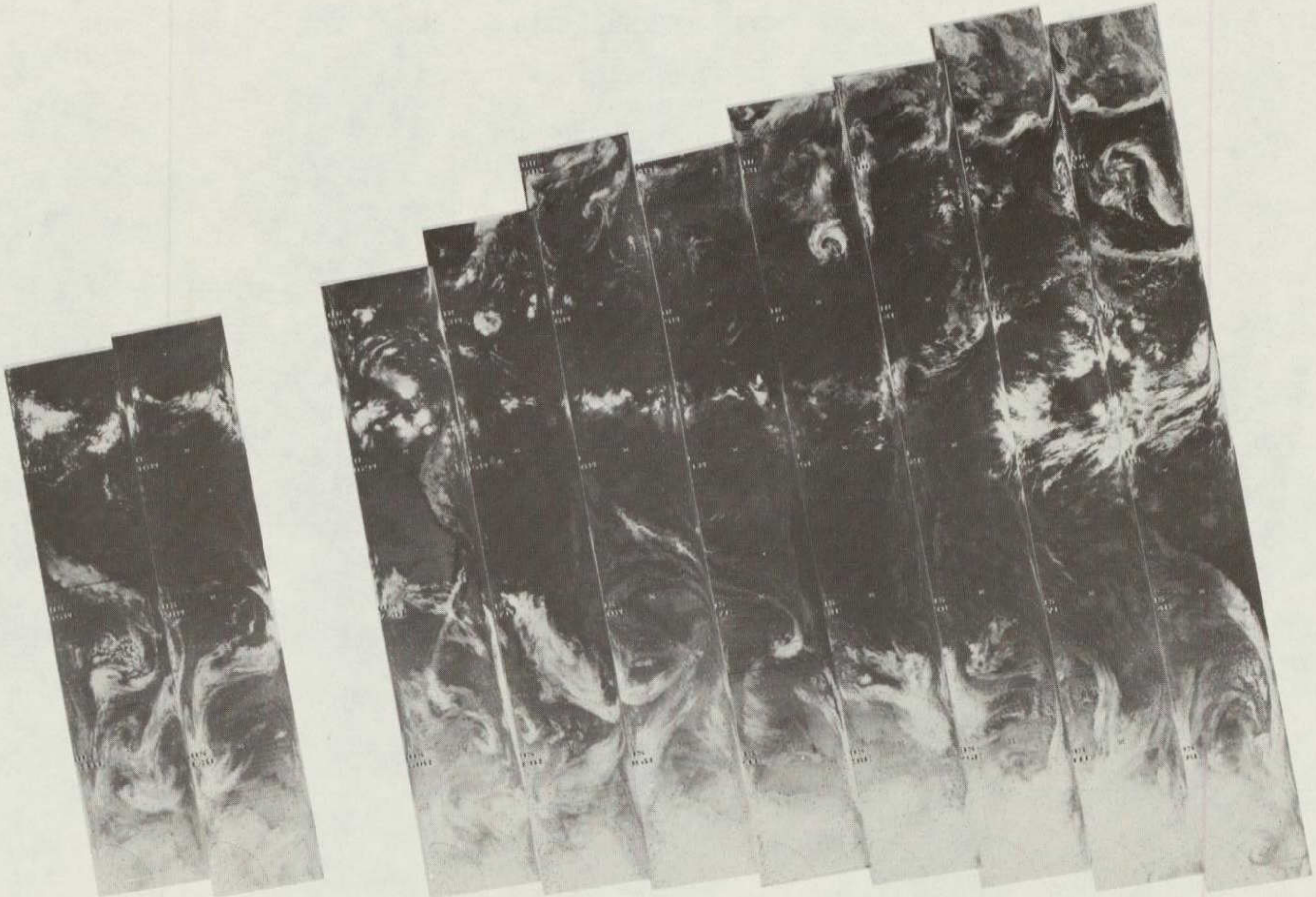
11.5 μm



5476 5475 5474 5473 5472 5471 5470 5469 5468 5467 5466 5465 5464

24 JUL 76

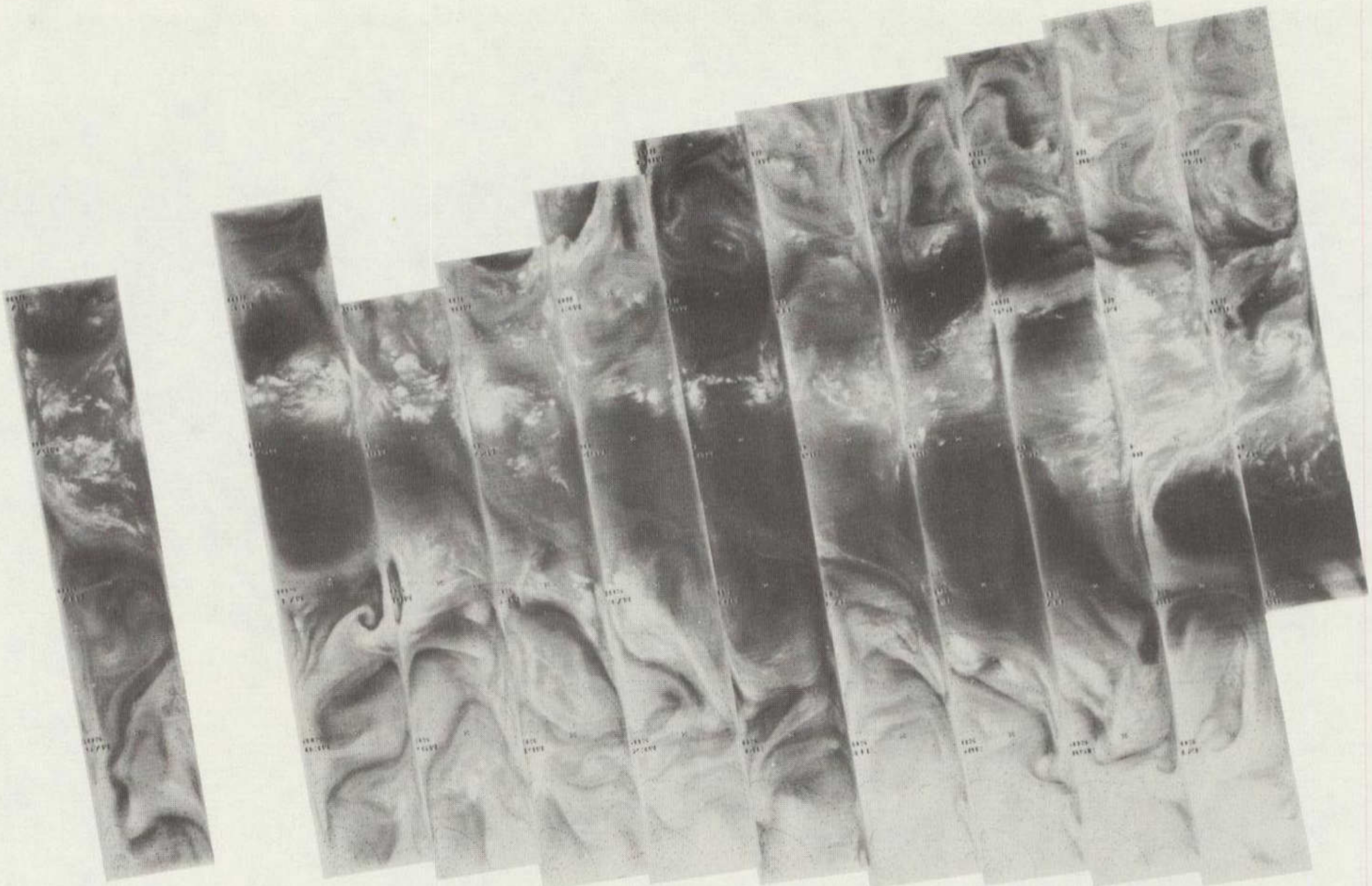
6.7 μm



5476 5475 5474 5473 5472 5471 5470 5469 5468 5467 5466 5465 5464

24 JUL 76

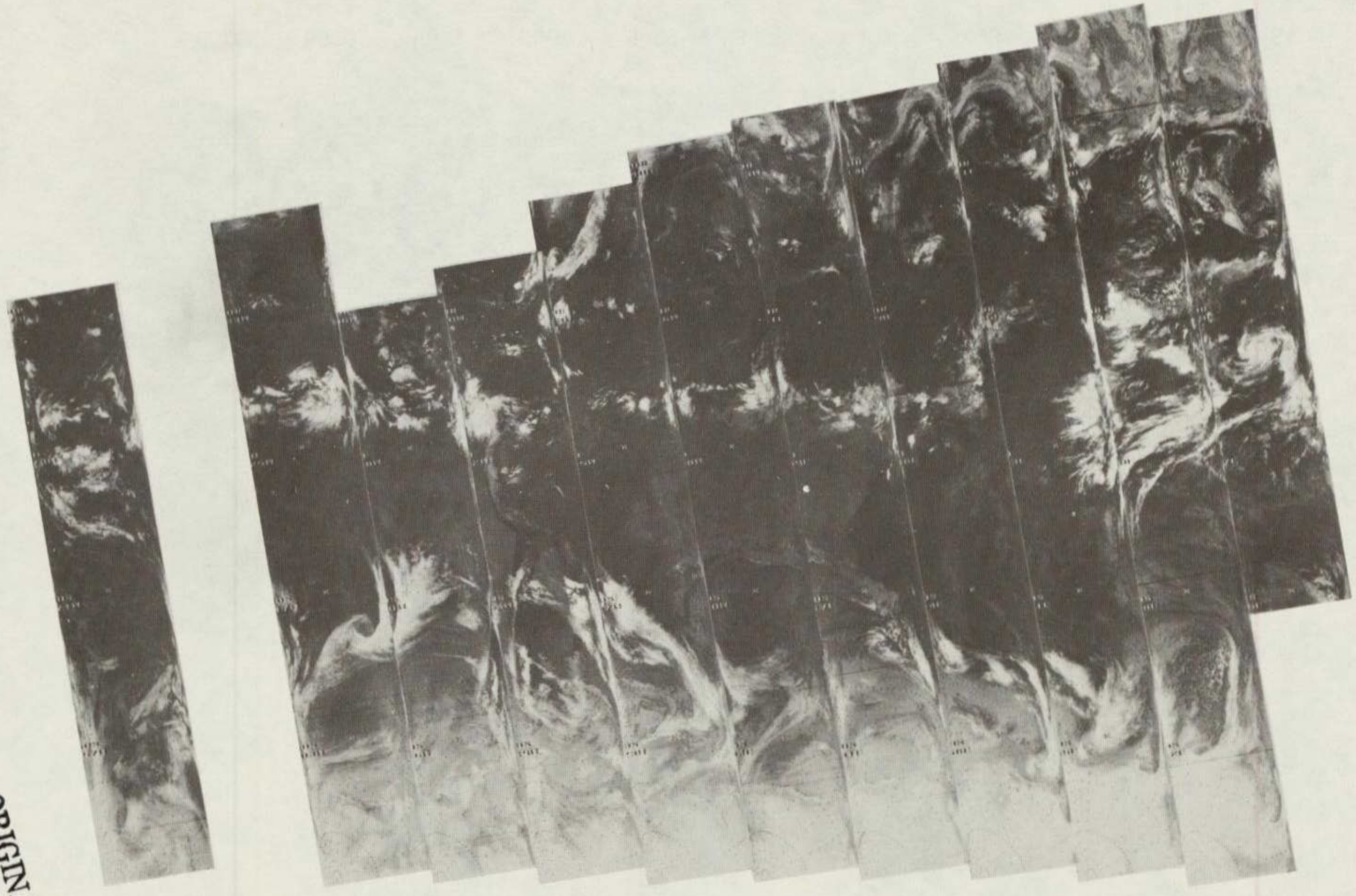
11.5 μm



5490 5489 5488 5487 5486 5485 5484 5483 5482 5481 5480 5479 5478 5477

25 JUL 76

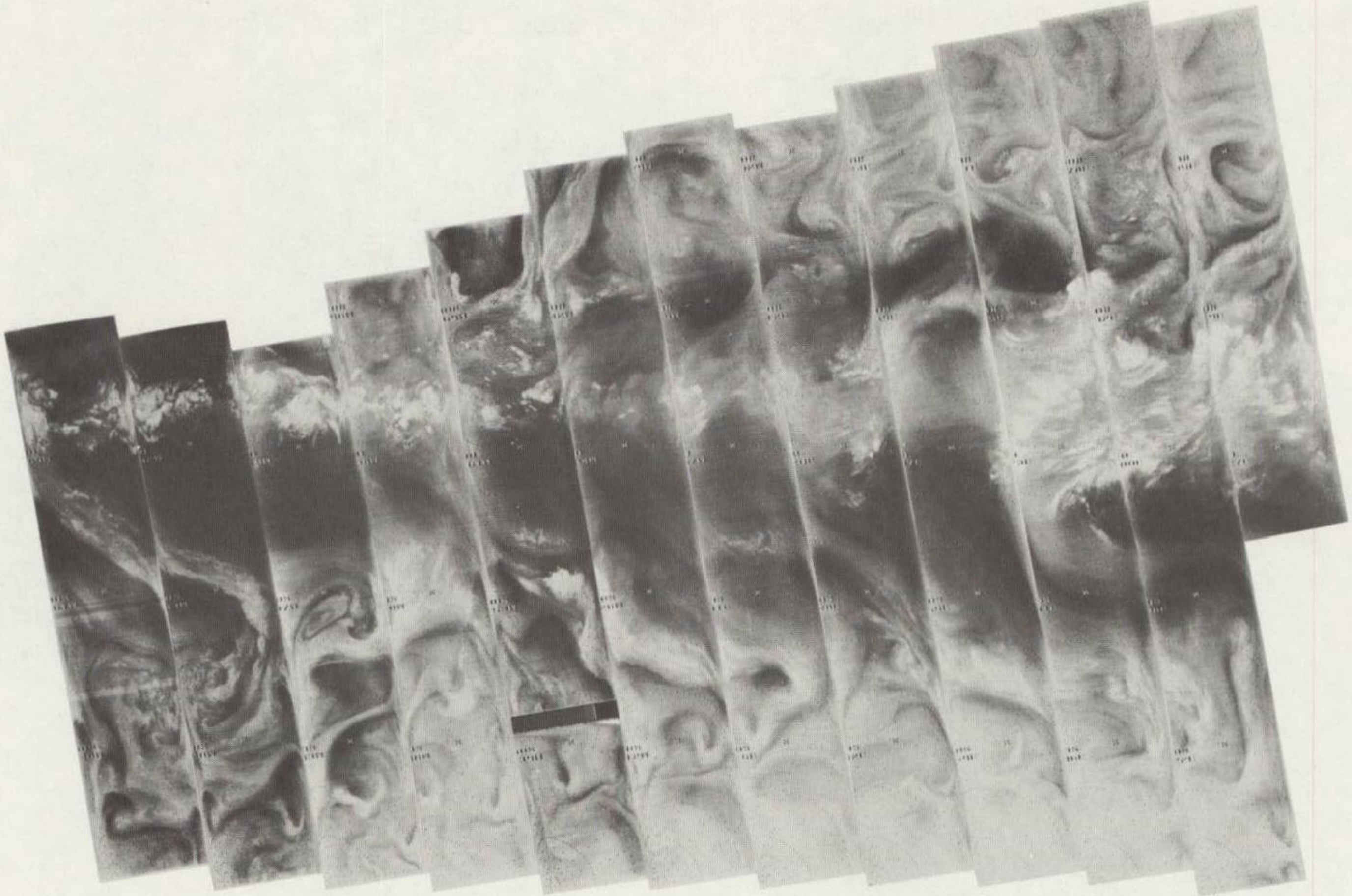
6.7 μm



5490 5489 5488 5487 5486 5485 5484 5483 5482 5481 5480 5479 5478 5477

25 JUL 76

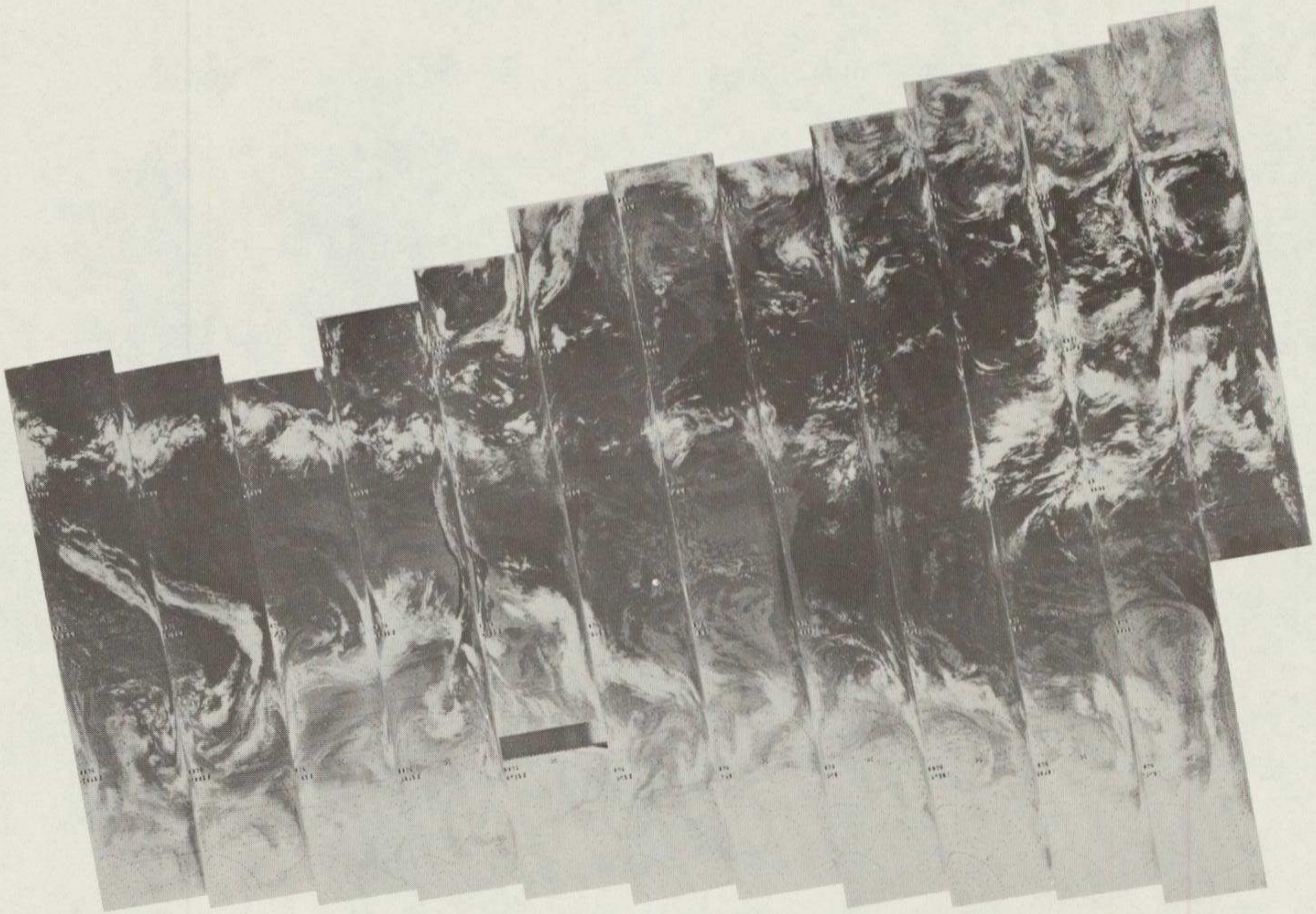
11.5 μm



5503 5502 5501 5500 5499 5498 5497 5496 5495 5494 5493 5492 5491

26 JUL 76

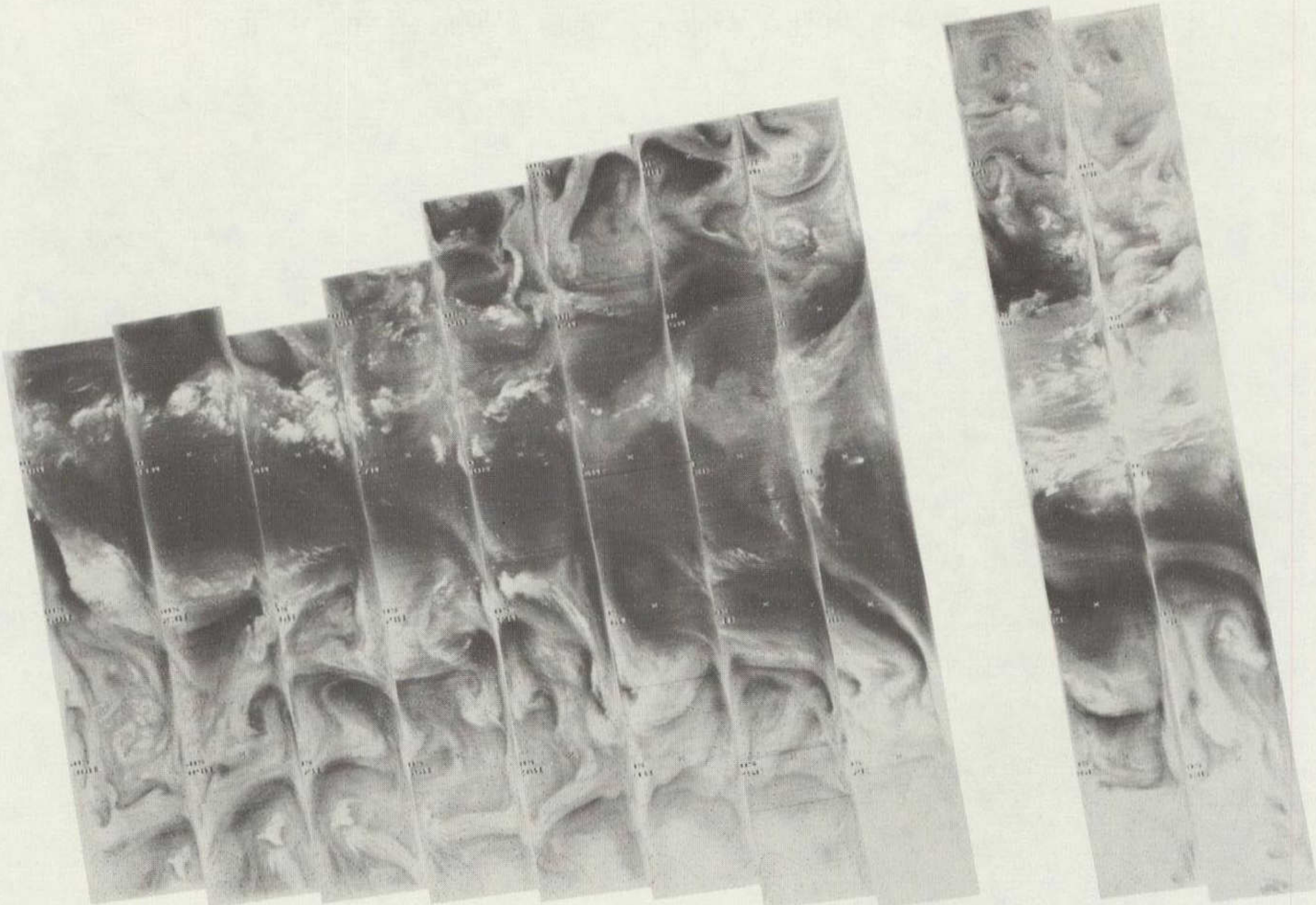
6.7 μm



5503 5502 5501 5500 5499 5498 5497 5496 5495 5494 5493 5492 5491

26 JUL 76

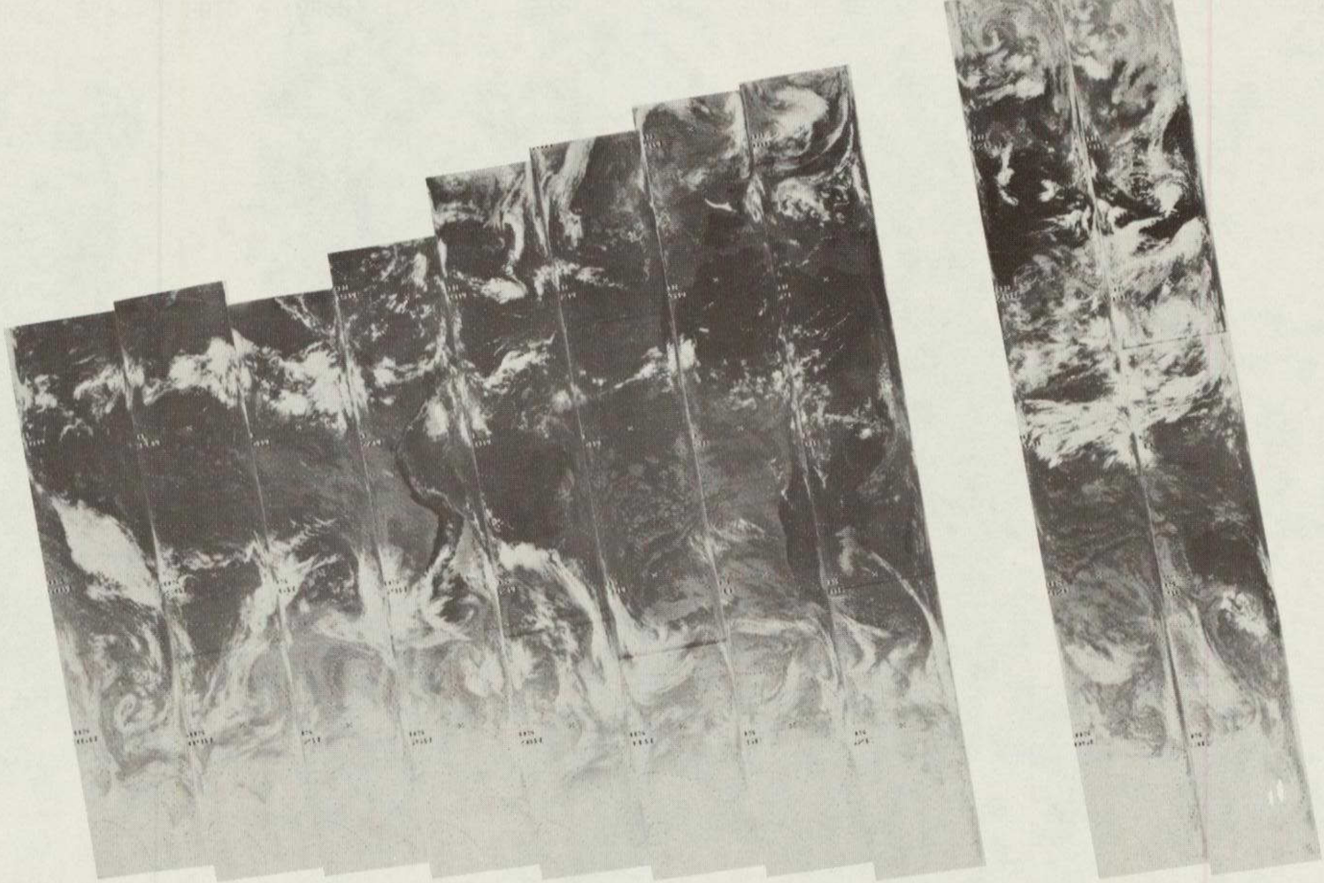
11.5 μm



5516 5515 5514 5513 5512 5511 5510 5509 5508 5507 5506 5505 5504

27 JUL 76

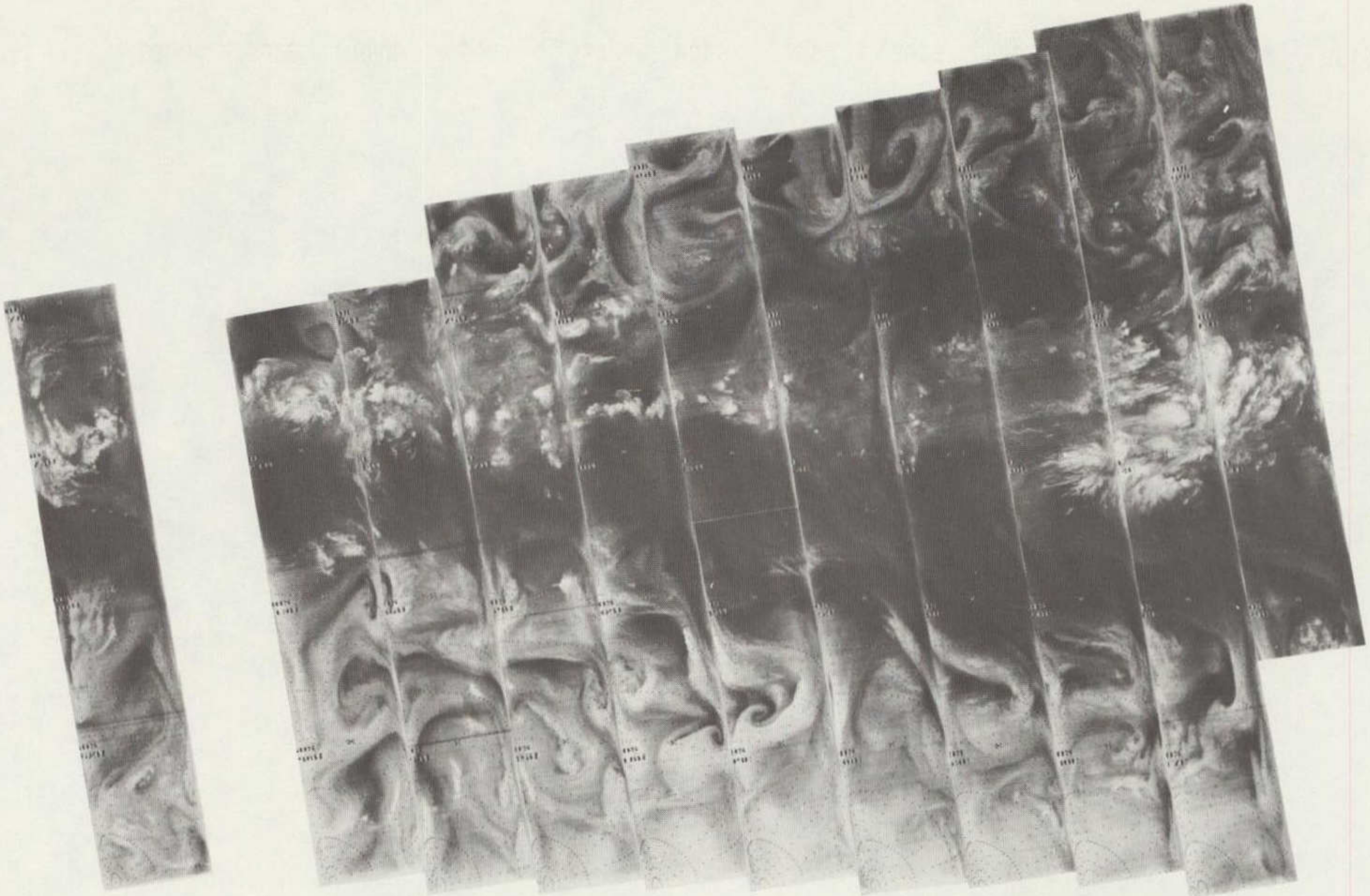
6.7 μm



5516 5515 5514 5513 5512 5511 5510 5509 5508 5507 5506 5505 5504

27 JUL 76

11.5 μm



5530 5529 5528 5527 5526 5525 5524 5523 5522 5521 5520 5519 5518 5517

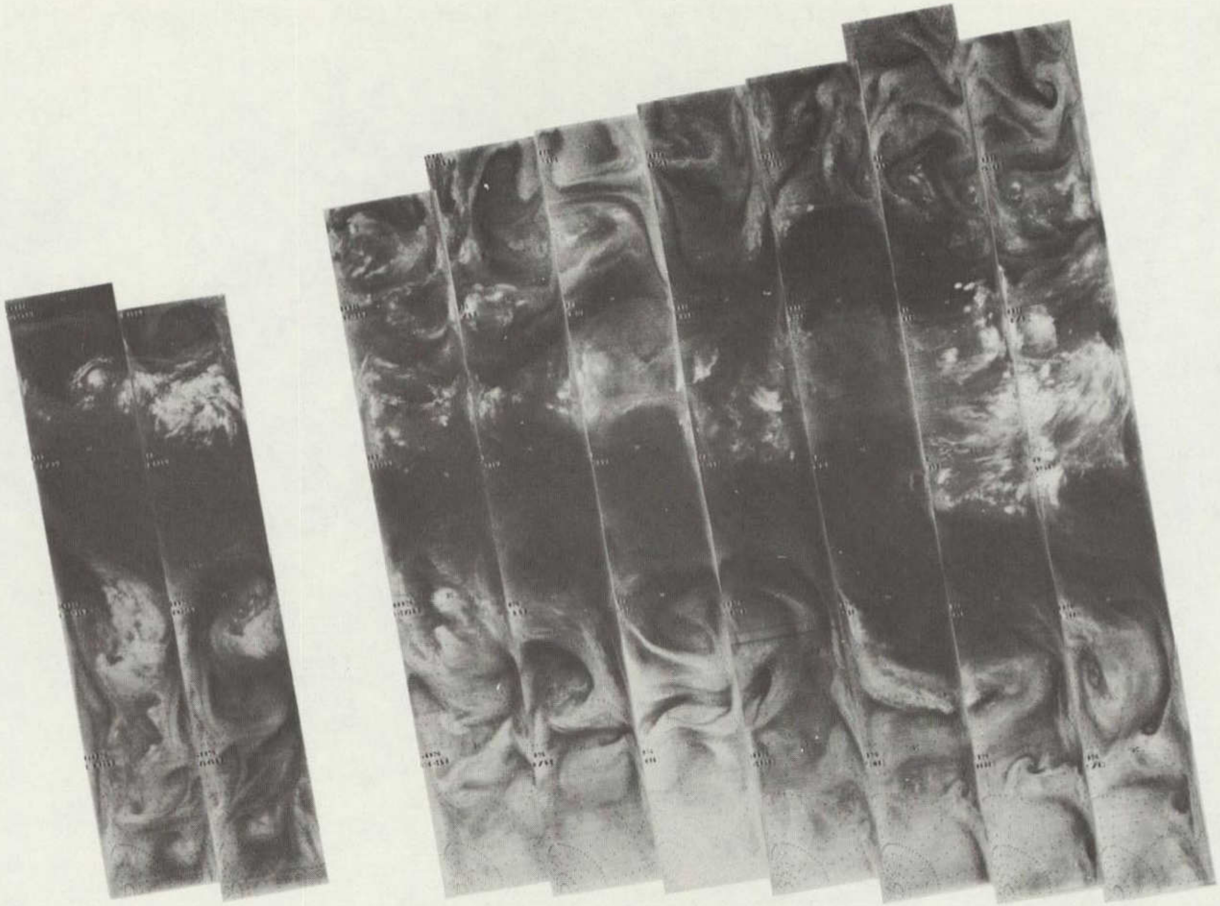
28 JUL 76

6.7 μm

5530 5529 5528 5527 5526 5525 5524 5523 5522 5521 5520 5519 5518 5517

28 JUL 76

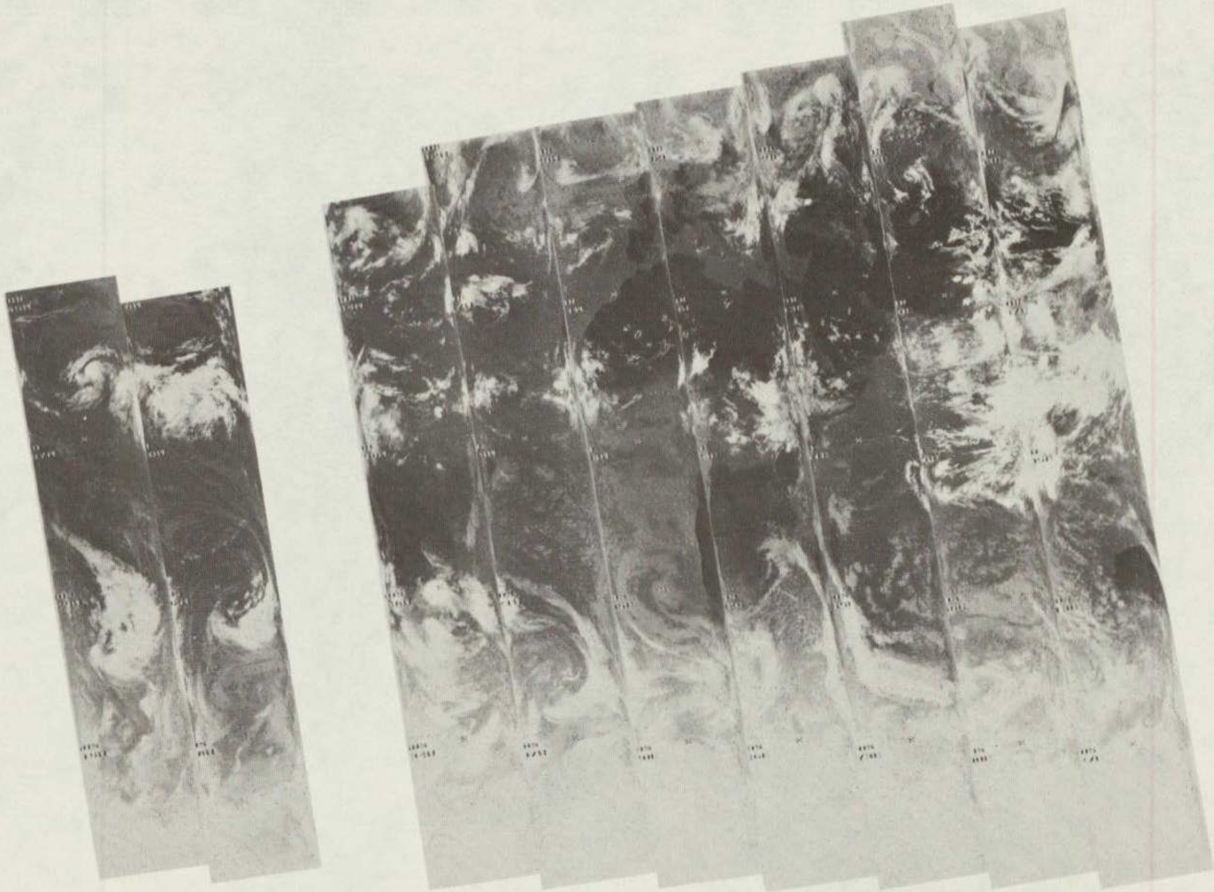
11.5 μm



5543 5542 5541 5540 5539 5538 5537 5536 5535 5534 5533 5532 5531

29 JUL 76

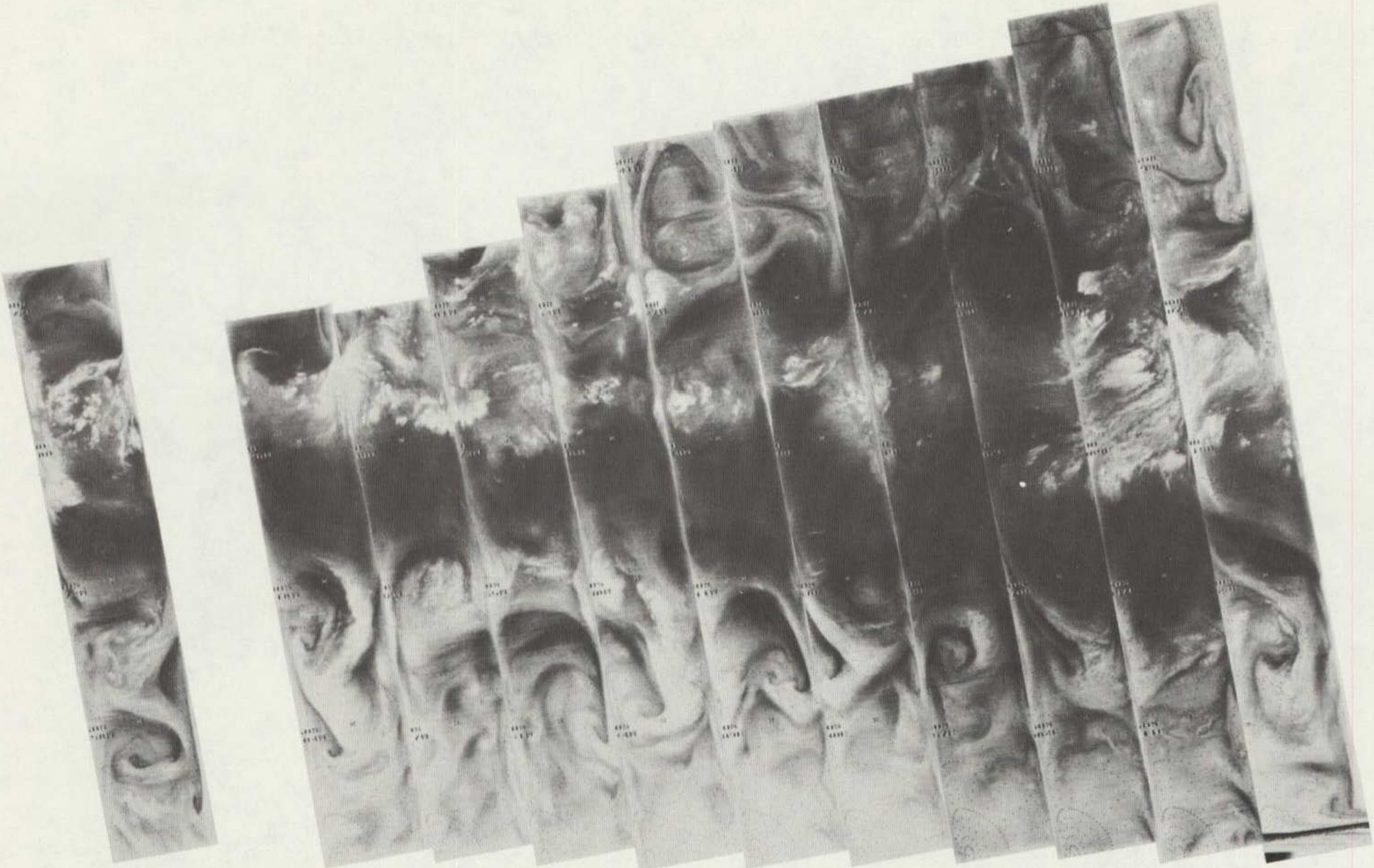
6.7 μm



5543 5542 5541 5540 5539 5538 5537 5536 5535 5534 5533 5532 5531

29 JUL 76

11.5 μm



5557 5556 5555 5554 5553 5552 5551 5550 5549 5548 5547 5546 5545 5544

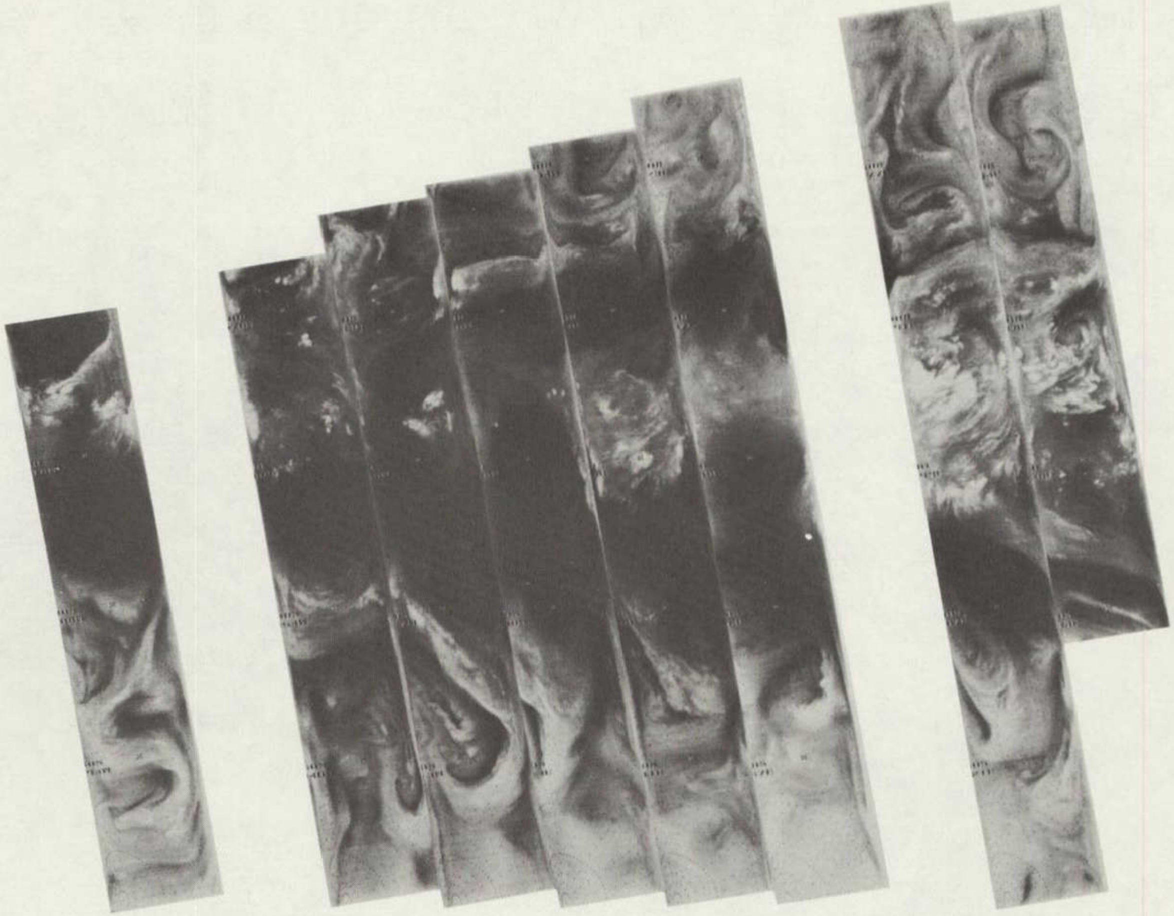
30 JUL 76

6.7 μm

5557 5556 5555 5554 5553 5552 5551 5550 5549 5548 5547 5546 5545 5544

30 JUL 76

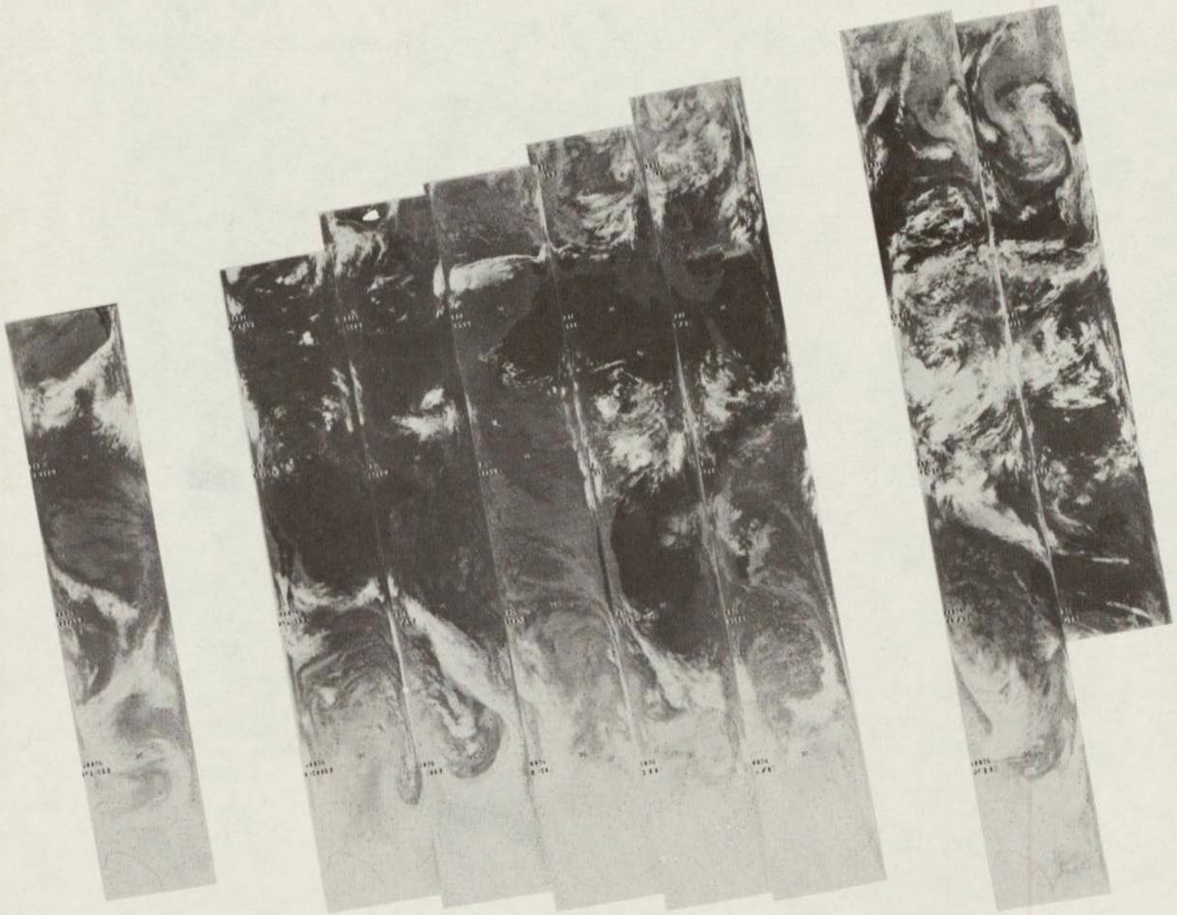
11.5 μm



5570 5569 5568 5567 5566 5565 5564 5563 5562 5561 5560 5559 5558

31 JUL 76

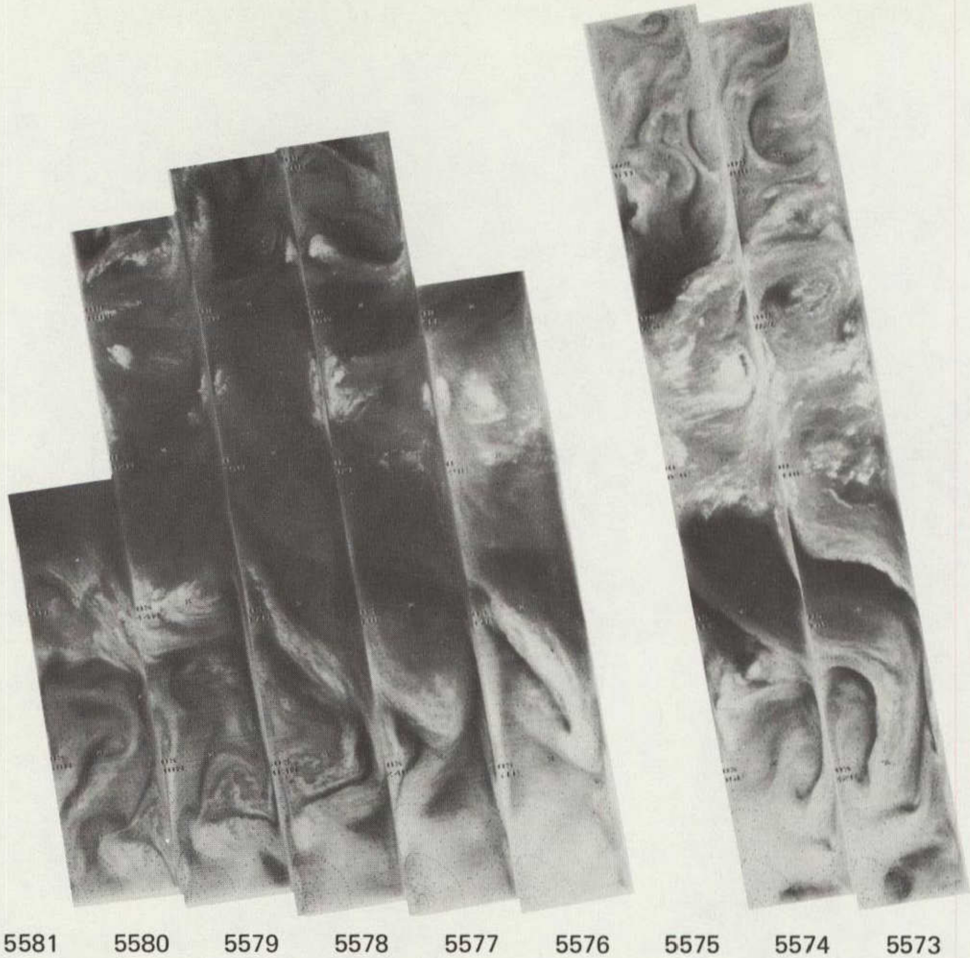
6.7 μm



5570 5569 5568 5567 5566 5565 5564 5563 5562 5561 5560 5559 5558

31 JUL 76

11.5 μm



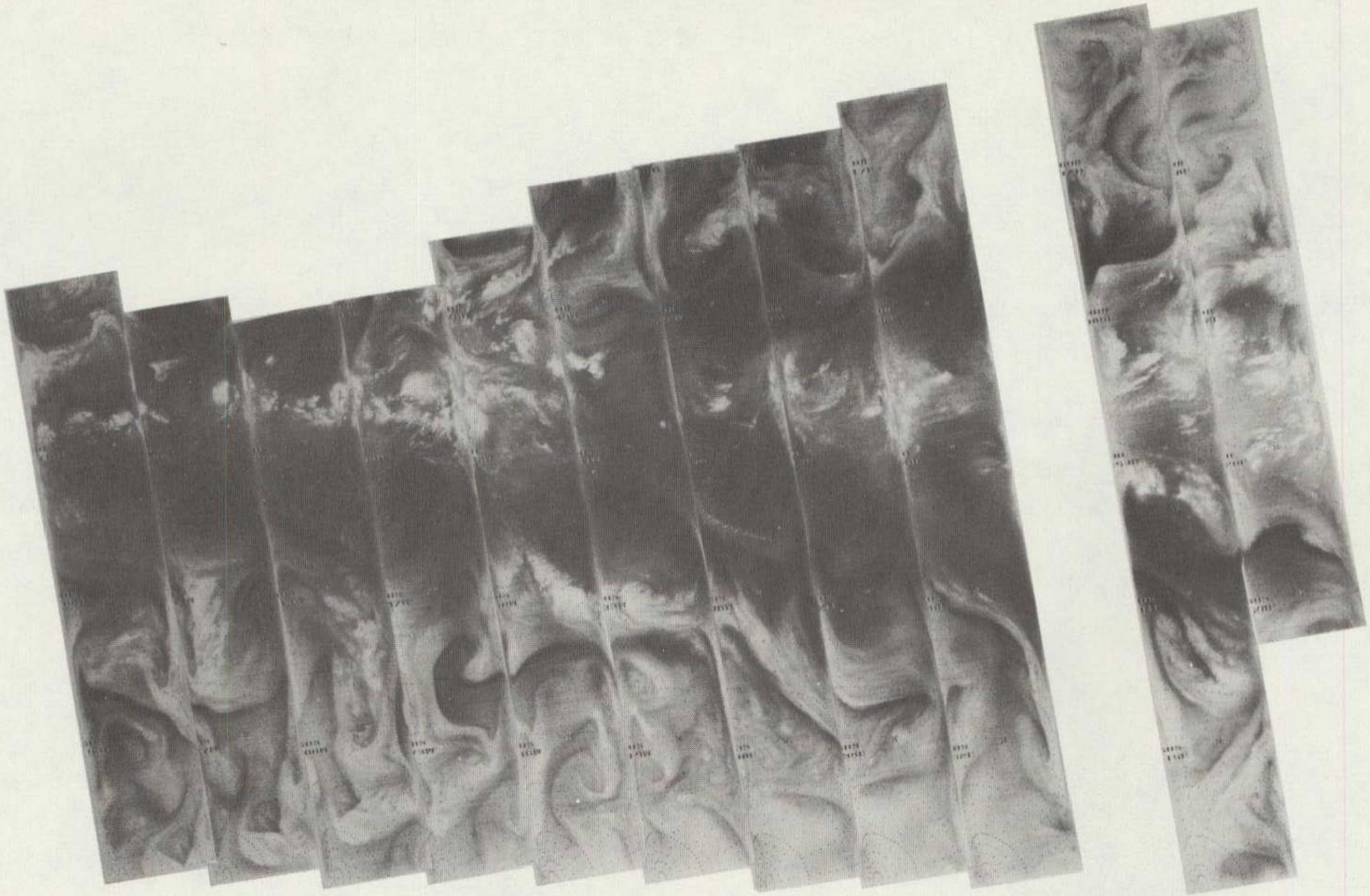
1 AUG 76

6.7 μm

5583 5582 5581 5580 5579 5578 5577 5576 5575 5574 5573 5572 5571

1 AUG 76

11.5 μm



5597 5596 5595 5594 5593 5592 5591 5590 5589 5588 5587 5586 5585 5584

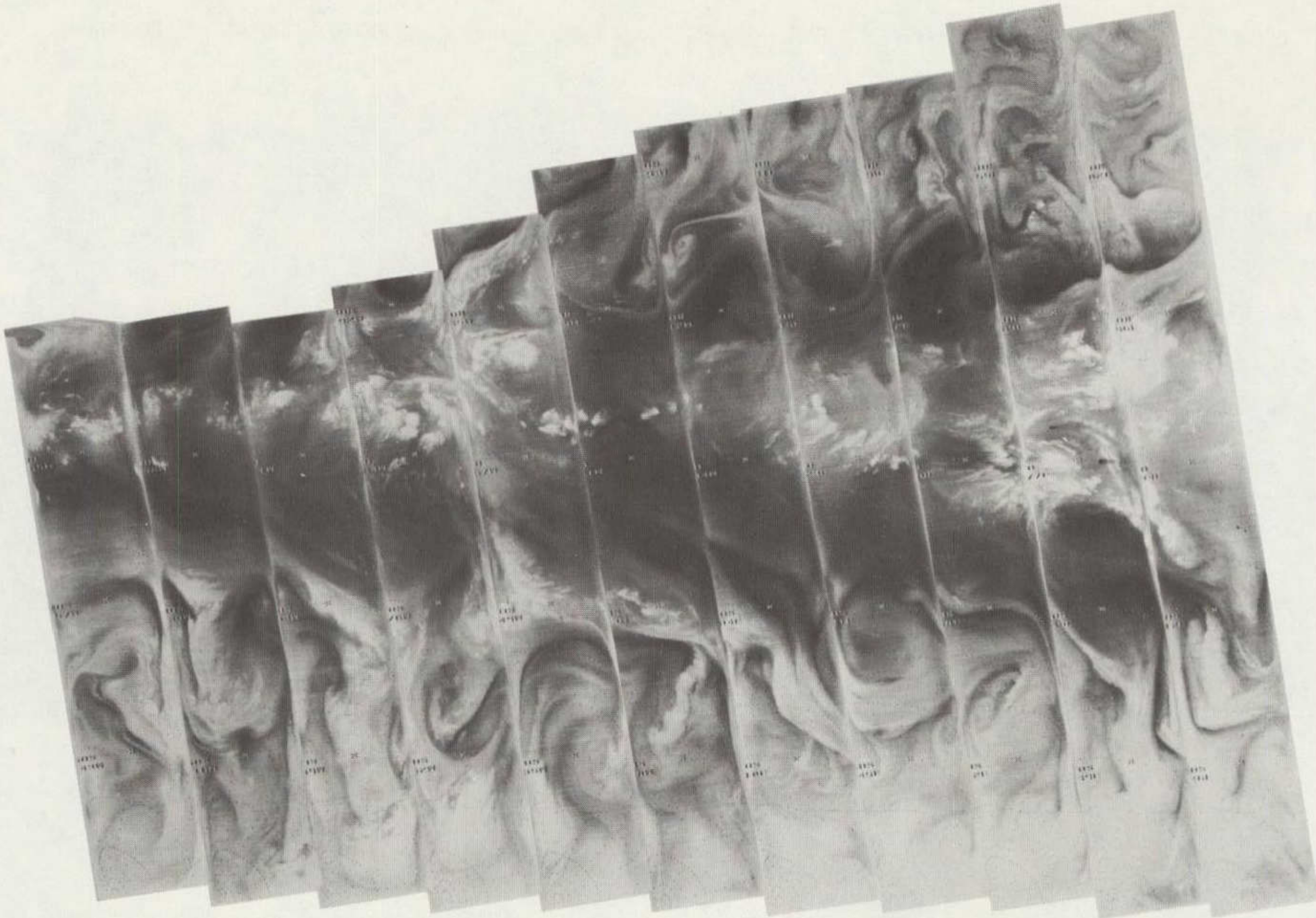
2 AUG 76

6.7 μm

5597 5596 5595 5594 5593 5592 5591 5590 5589 5588 5587 5586 5585 5584

2 AUG 76

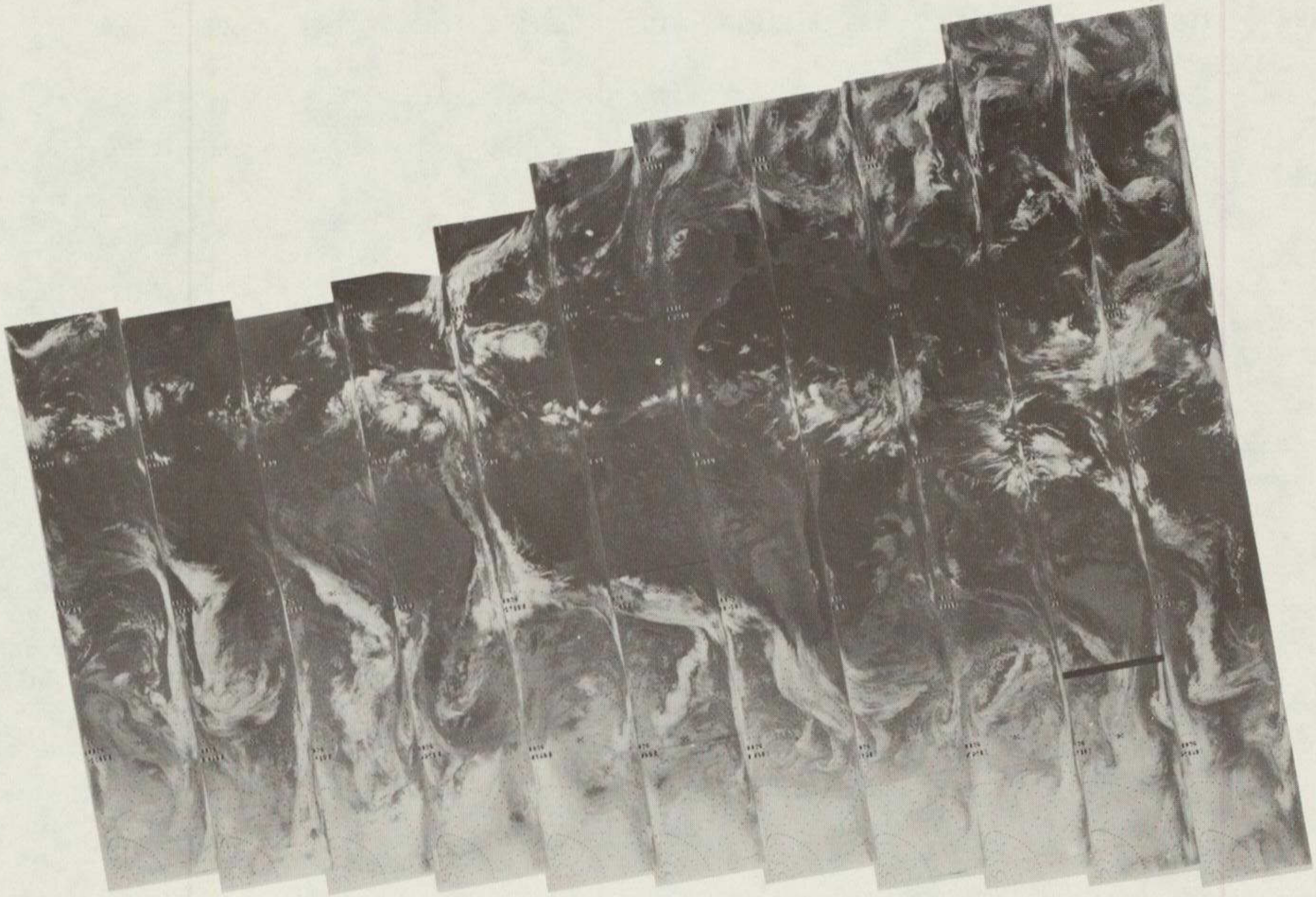
11.5 μm



5610 5609 5608 5607 5606 5605 5604 5603 5602 5601 5600 5599 5598

3 AUG 76

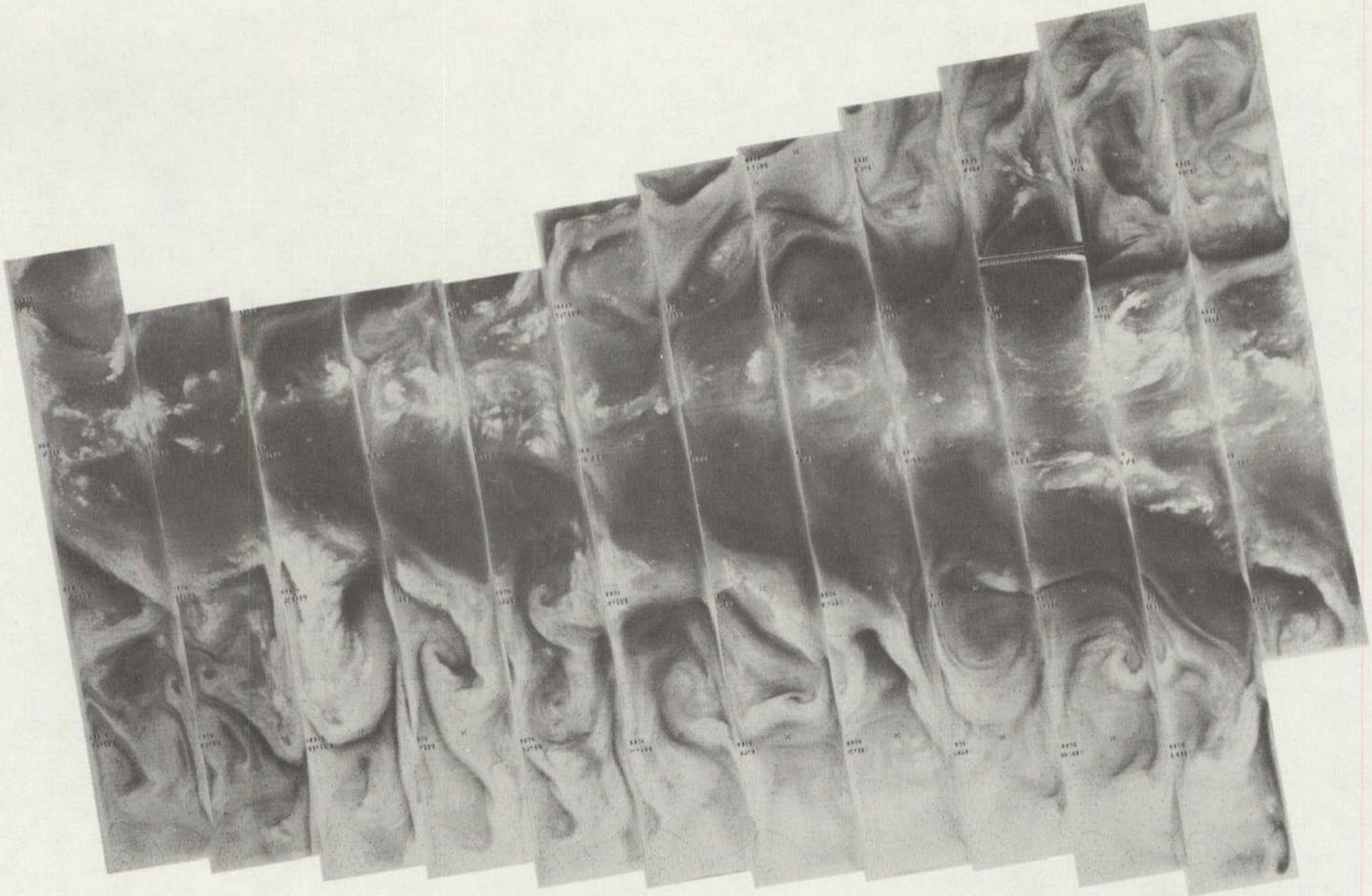
6.7 μm



5610 5609 5608 5607 5606 5605 5604 5603 5602 5601 5600 5599 5598

3 AUG 76

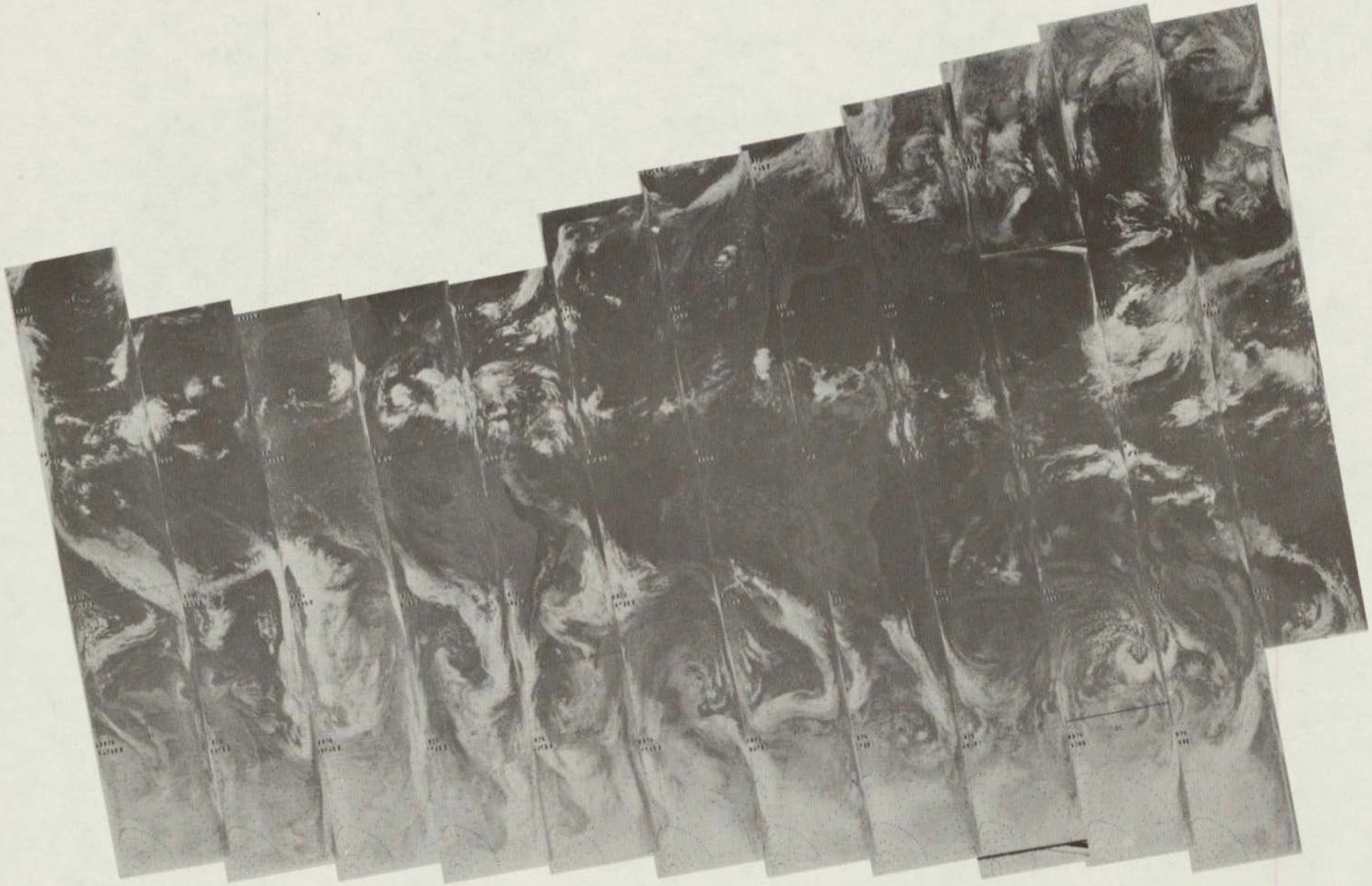
11.5 μm



5624 5623 5622 5621 5620 5619 5618 5617 5616 5615 5614 5613 5612 5611

4 AUG 76

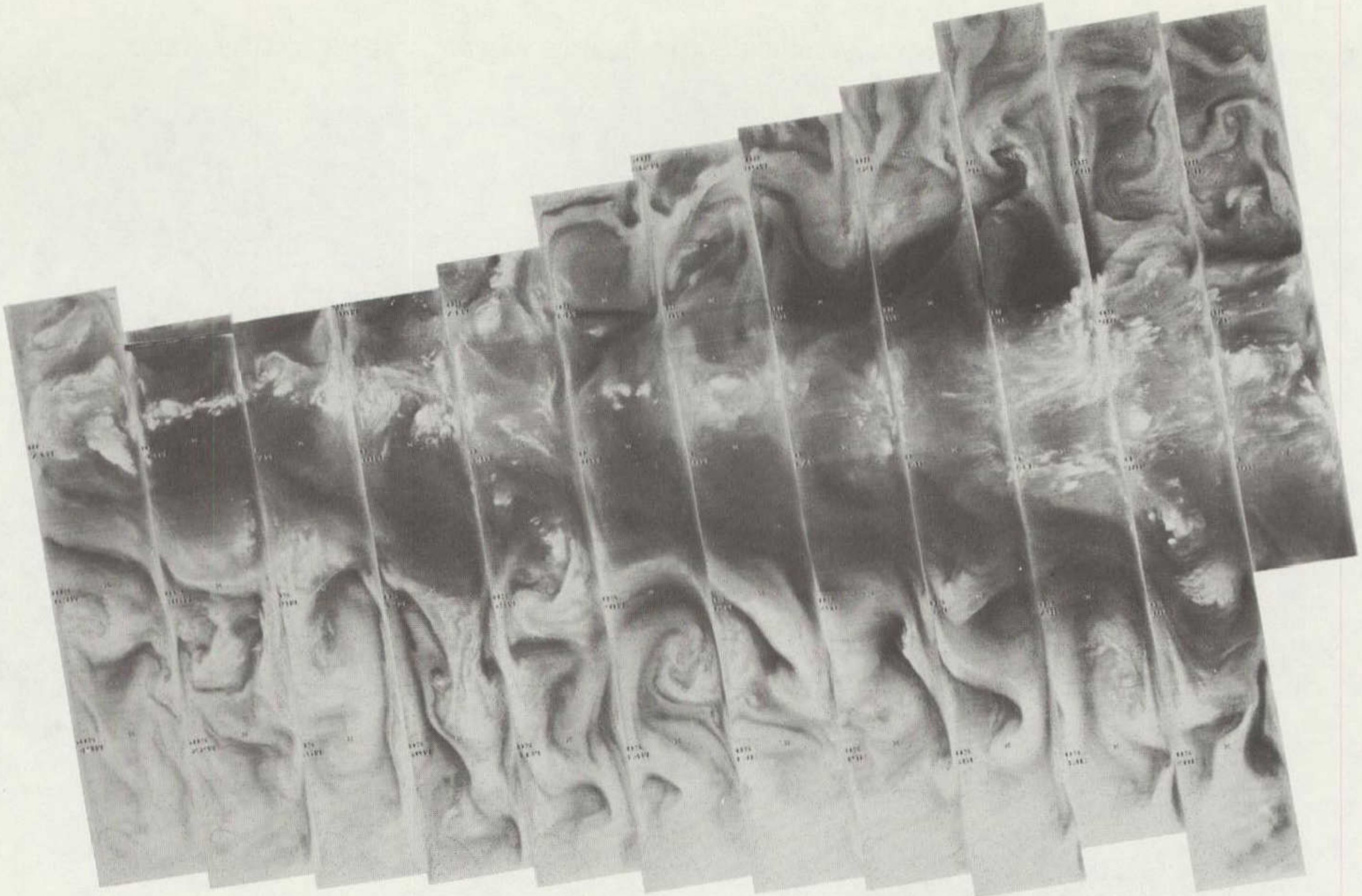
6.7 μm



5624 5623 5622 5621 5620 5619 5618 5617 5616 5615 5614 5613 5612 5611

4 AUG 76

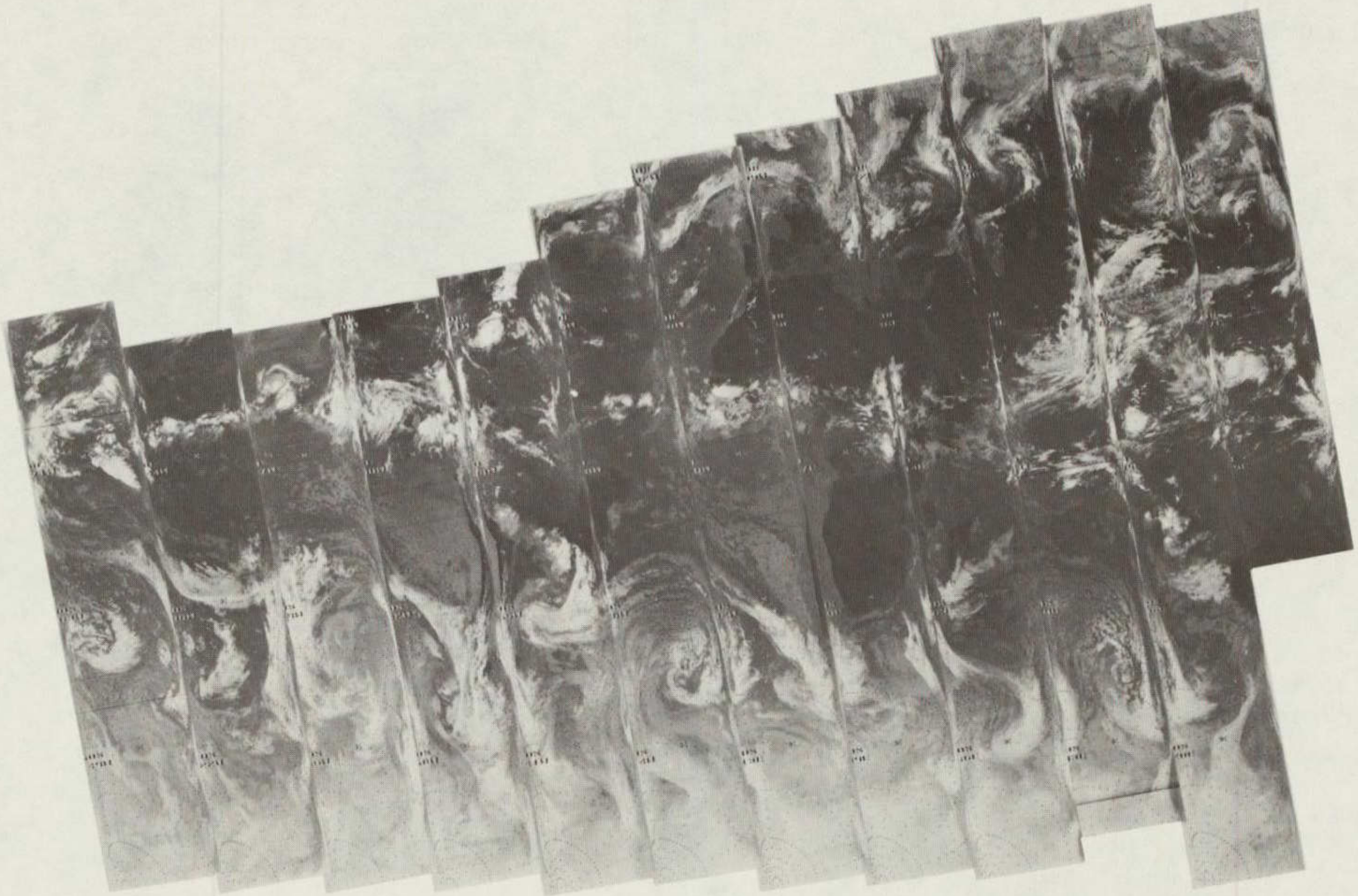
11.5 μm



5637 5636 5635 5634 5633 5632 5631 5630 5629 5628 5627 5626 5625

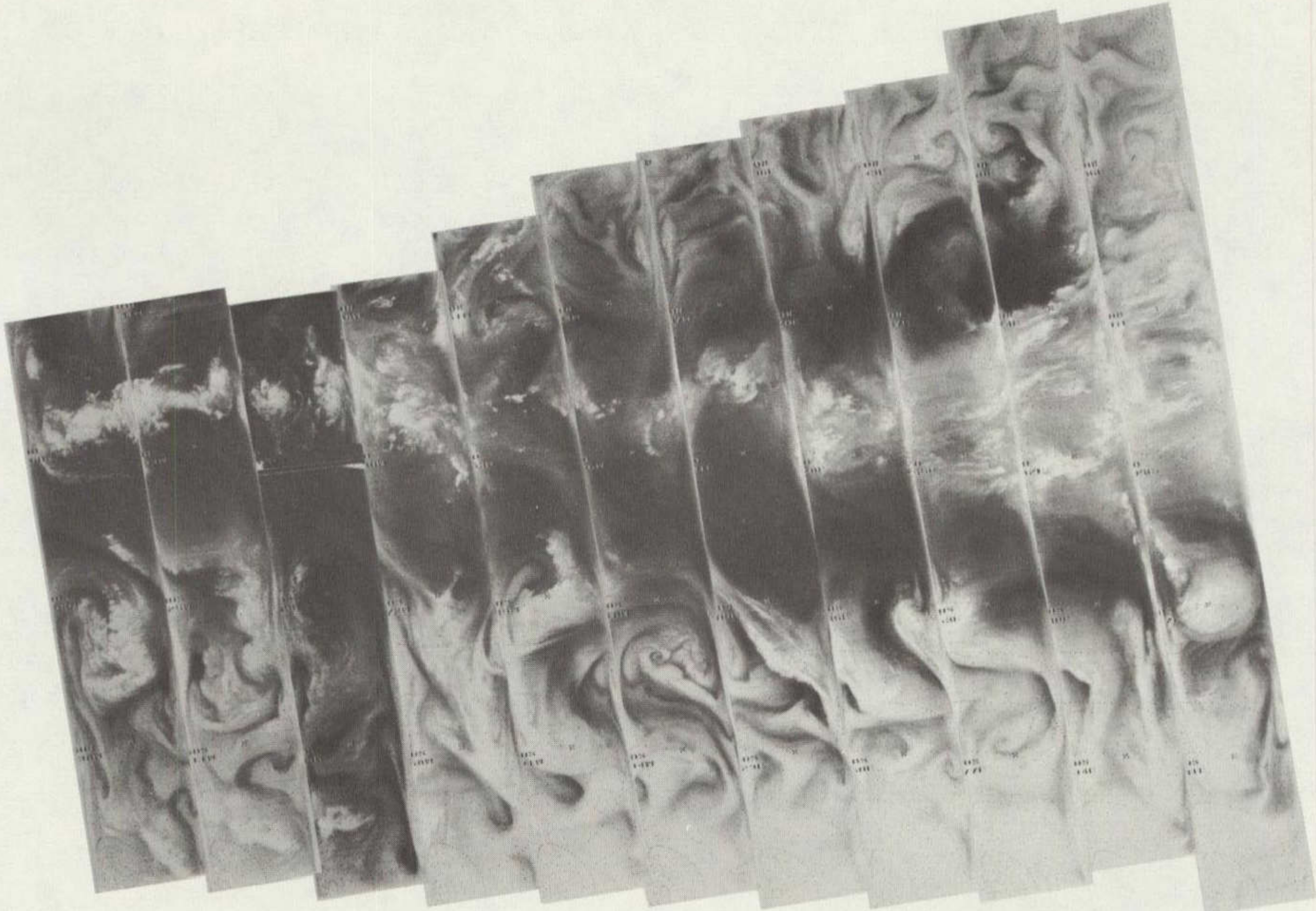
5 AUG 76

6.7 μm



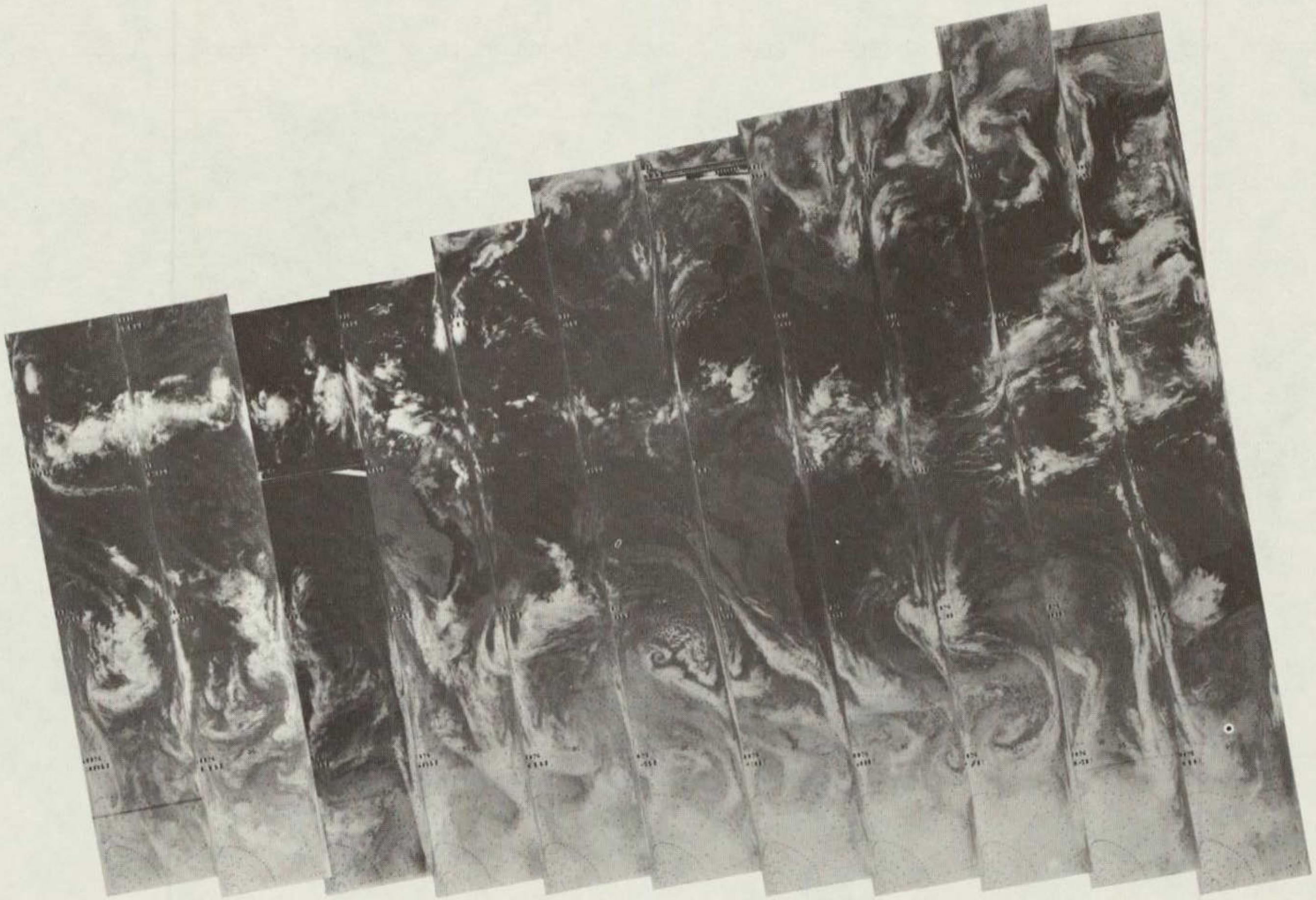
5 AUG 76

11.5 μm



6 AUG 76

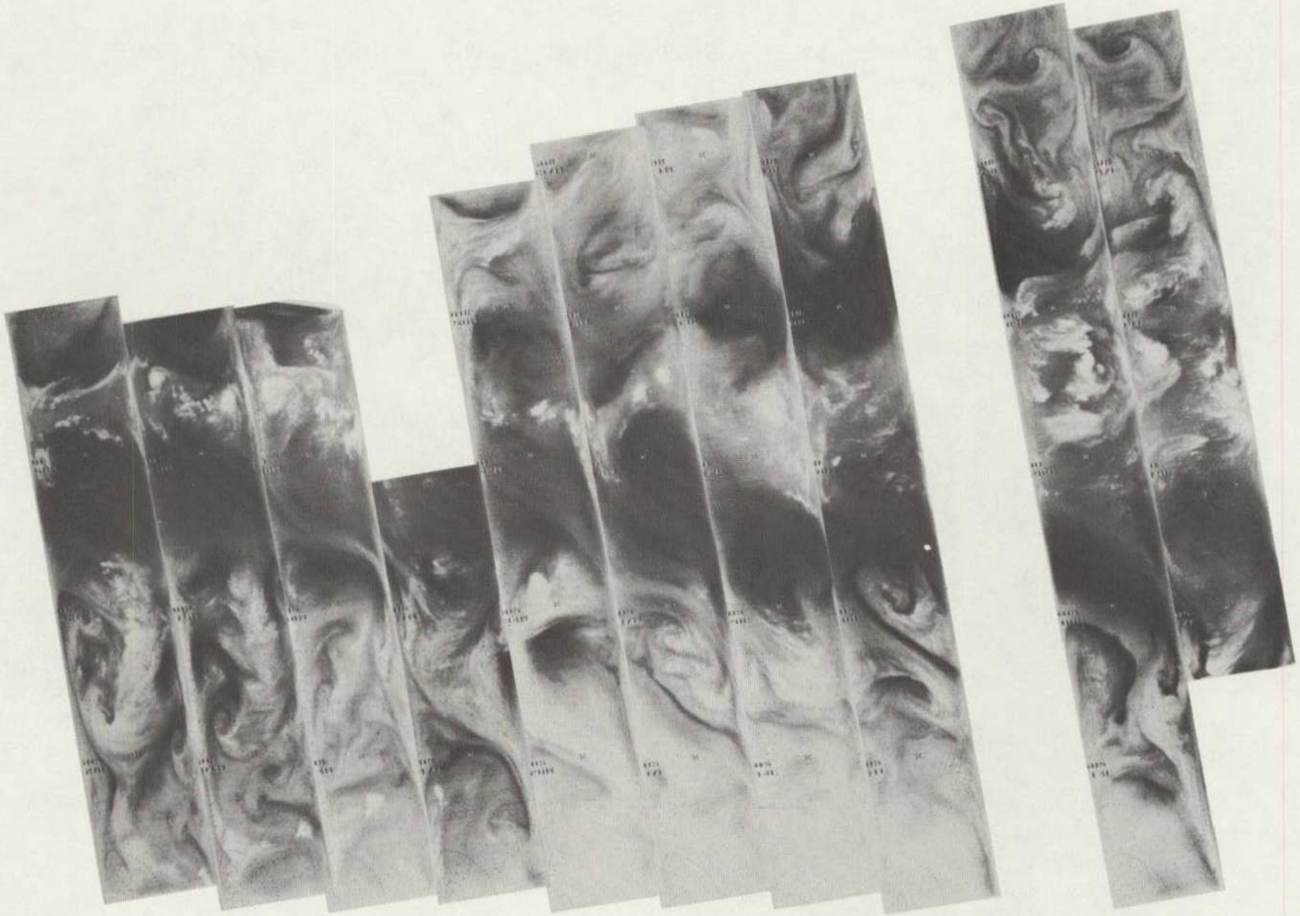
6.7 μm



5650 5649 5648 5647 5646 5645 5644 5643 5642 5641 5640 5639 5638

6 AUG 76

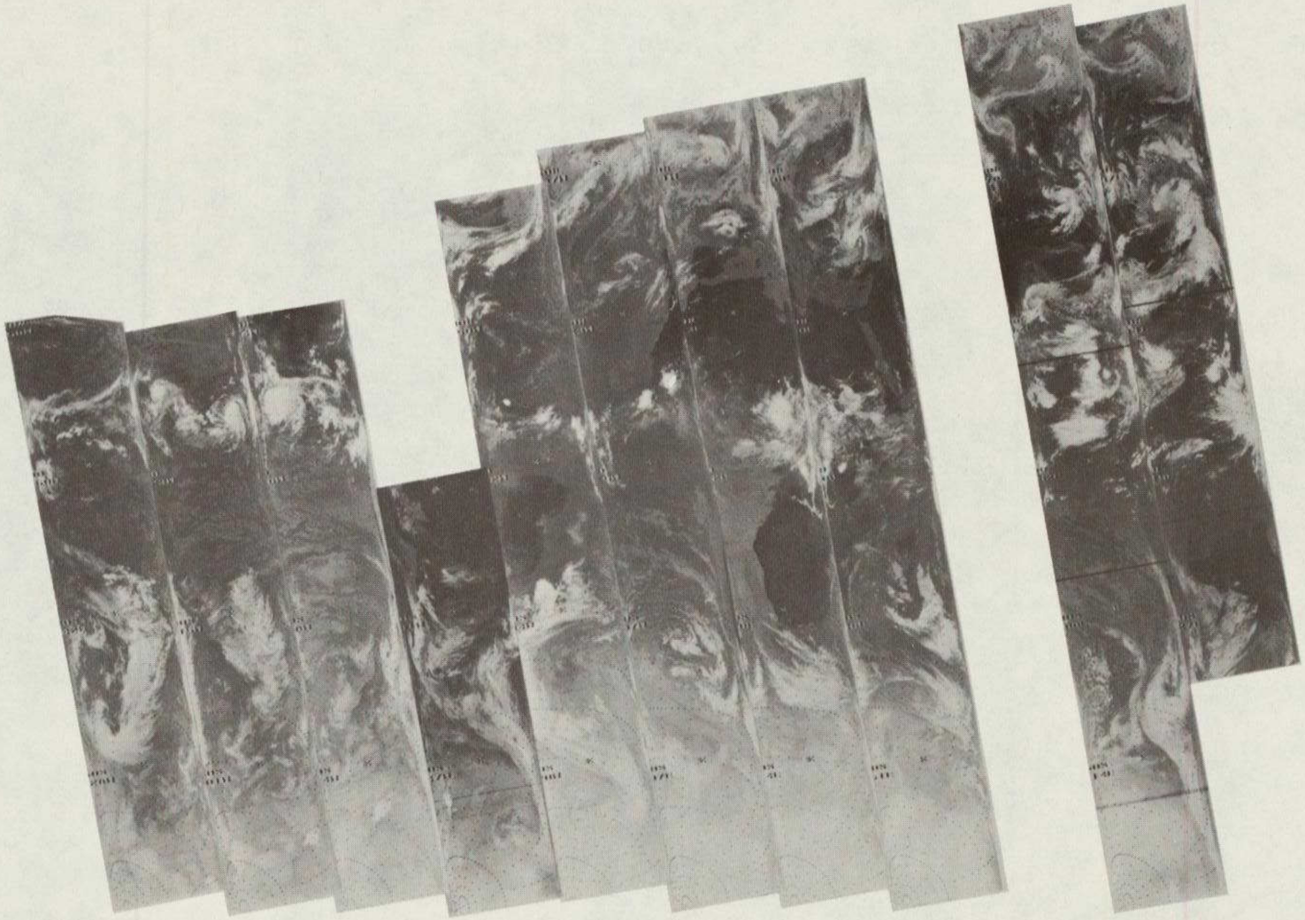
11.5 μm



5664 5663 5662 5661 5660 5659 5658 5657 5656 5655 5654 5653 5652 5651

7 AUG 76

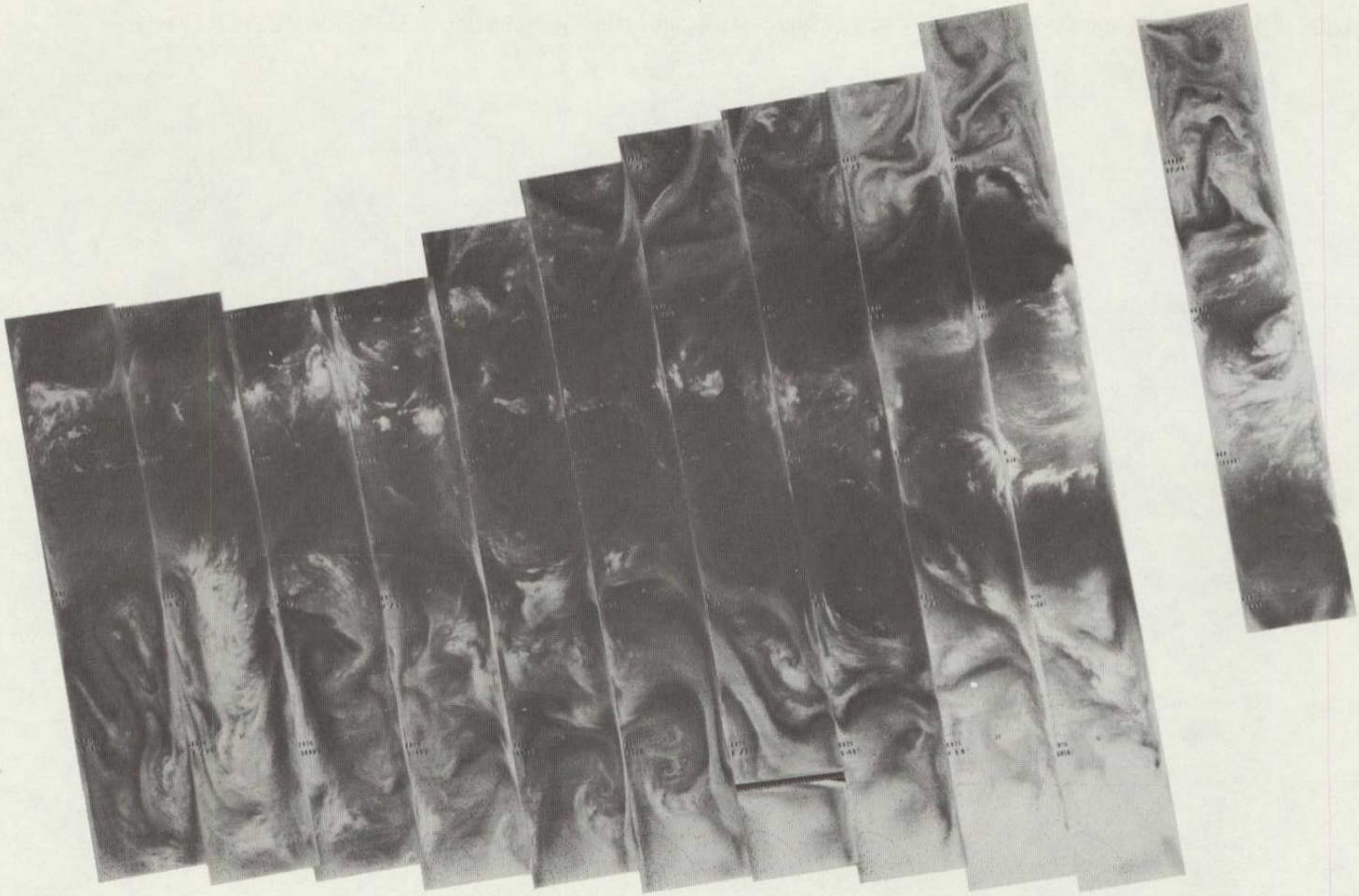
6.7 μm



5664 5663 5662 5661 5660 5659 5658 5657 5656 5655 5654 5653 5652 5651

7 AUG 76

11.5 μm



5677 5676 5675 5674 5673 5672 5671 5670 5669 5668 5667 5666 5665

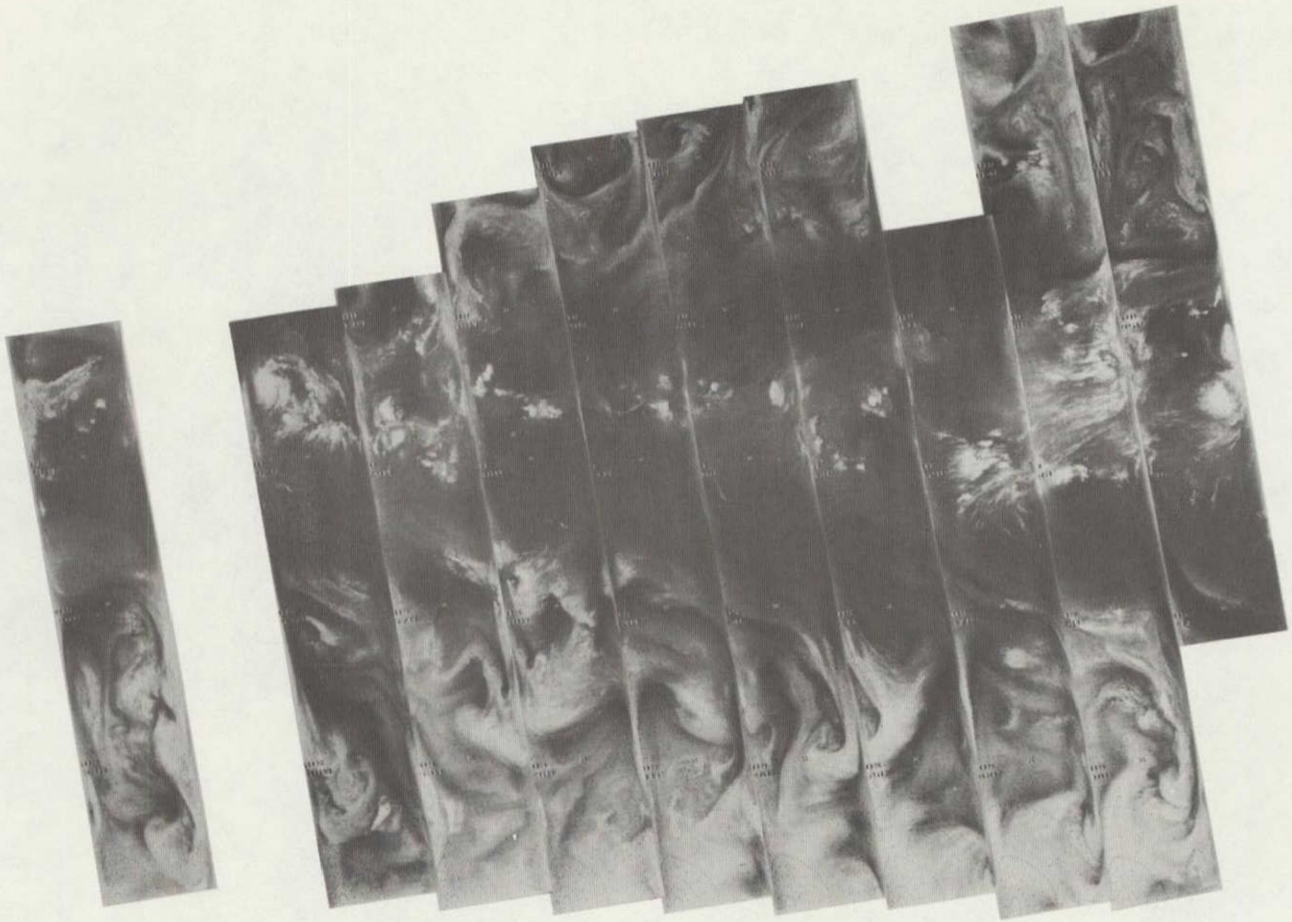
8 AUG 76

6.7 μm

5677 5676 5675 5674 5673 5672 5671 5670 5669 5668 5667 5666 5665

8 AUG 76

11.5 μm



5691 5690 5689 5688 5687 5686 5685 5684 5683 5682 5681 5680 5679 5678

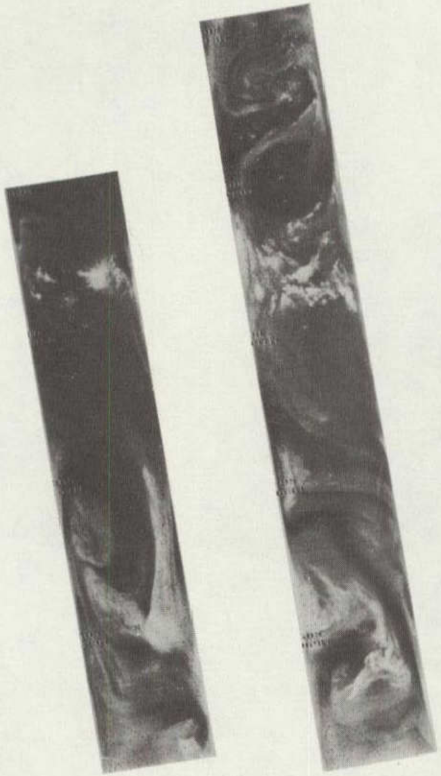
9 AUG 76

6.7 μm

5691 5690 5689 5688 5687 5686 5685 5684 5683 5682 5681 5680 5679 5678

9 AUG 76

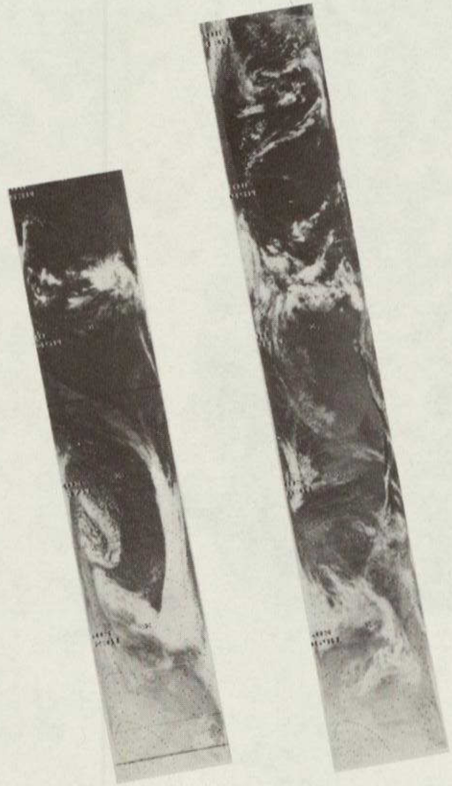
11.5 μm



5704 5703 5702 5701 5700 5699 5698 5697 5696 5695 5694 5693 5692

10 AUG 76

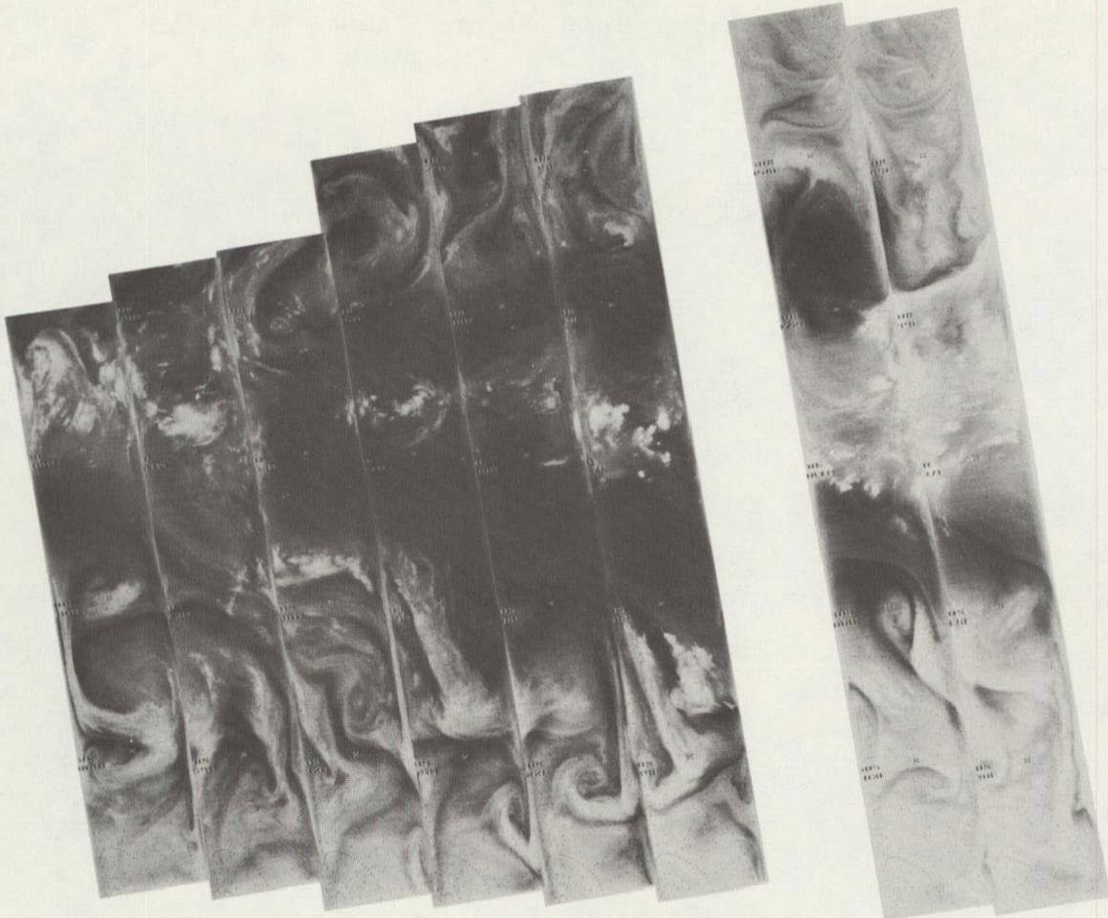
6.7 μm



5704 5703 5702 5701 5700 5699 5698 5697 5696 5695 5694 5693 5692

10 AUG 76

11.5 μm



5717 5716 5715 5714 5713 5712 5711 5710 5709 5708 5707 5706 5705

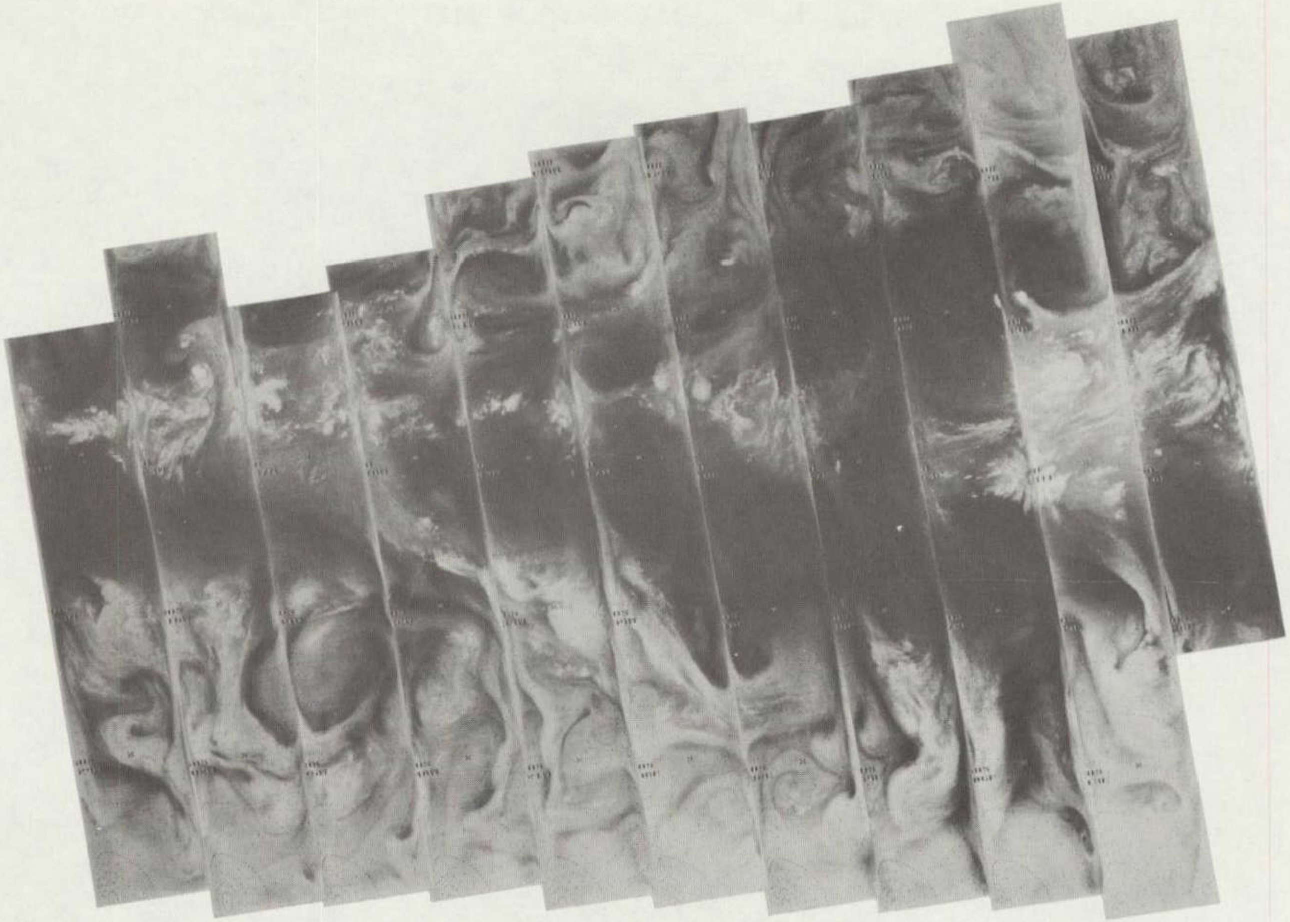
11 AUG 76

6.7 μm

5717 5716 5715 5714 5713 5712 5711 5710 5709 5708 5707 5706 5705

11 AUG 76

11.5 μm



5731 5730 5729 5728 5727 5726 5725 5724 5723 5722 5721 5720 5719 5718

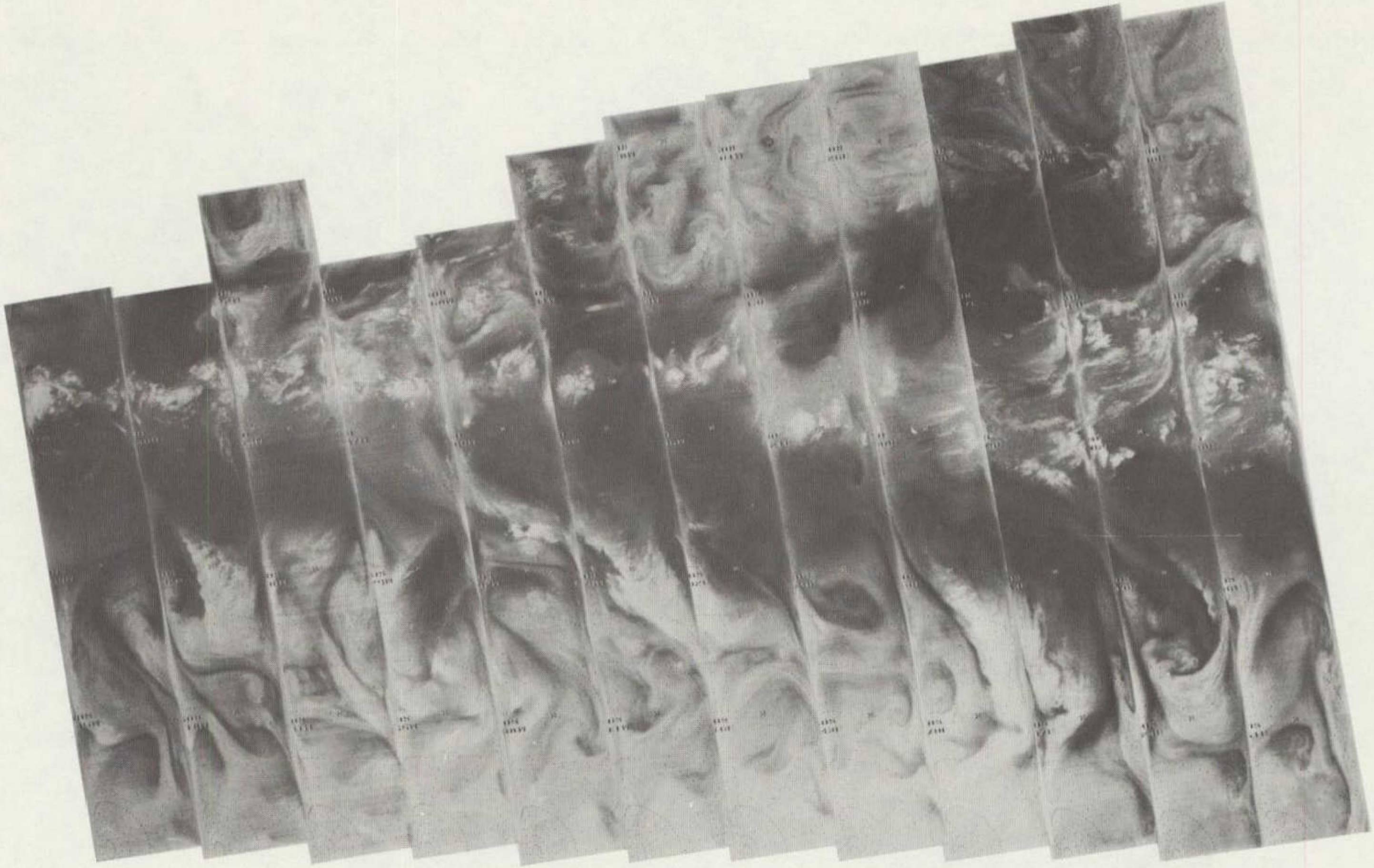
12 AUG 76

6.7 μm

5731 5730 5729 5728 5727 5726 5725 5724 5723 5722 5721 5720 5719 5718

12 AUG 76

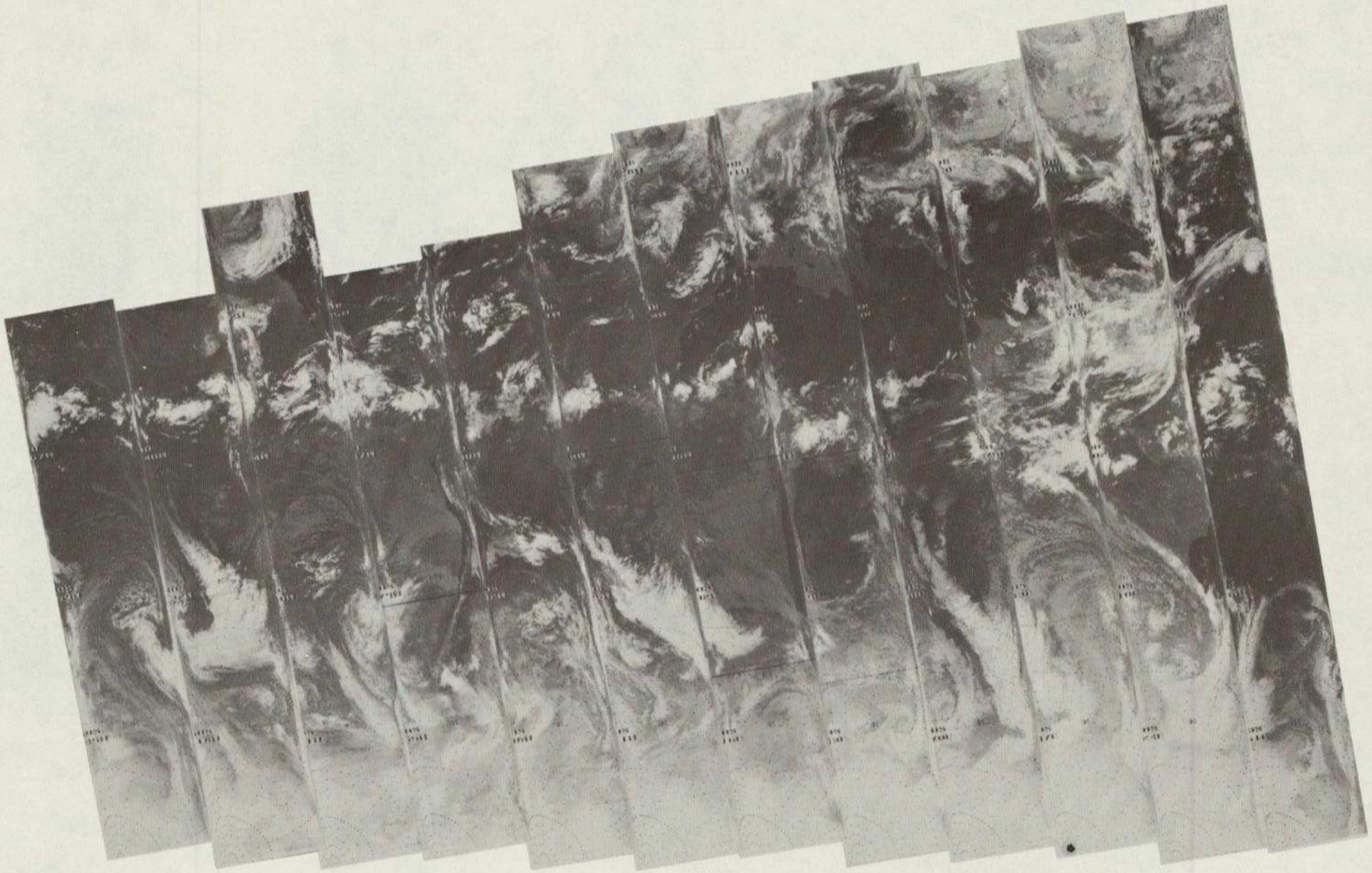
11.5 μm



5744 5743 5742 5741 5740 5739 5738 5737 5736 5735 5734 5733 5732

13 AUG 76

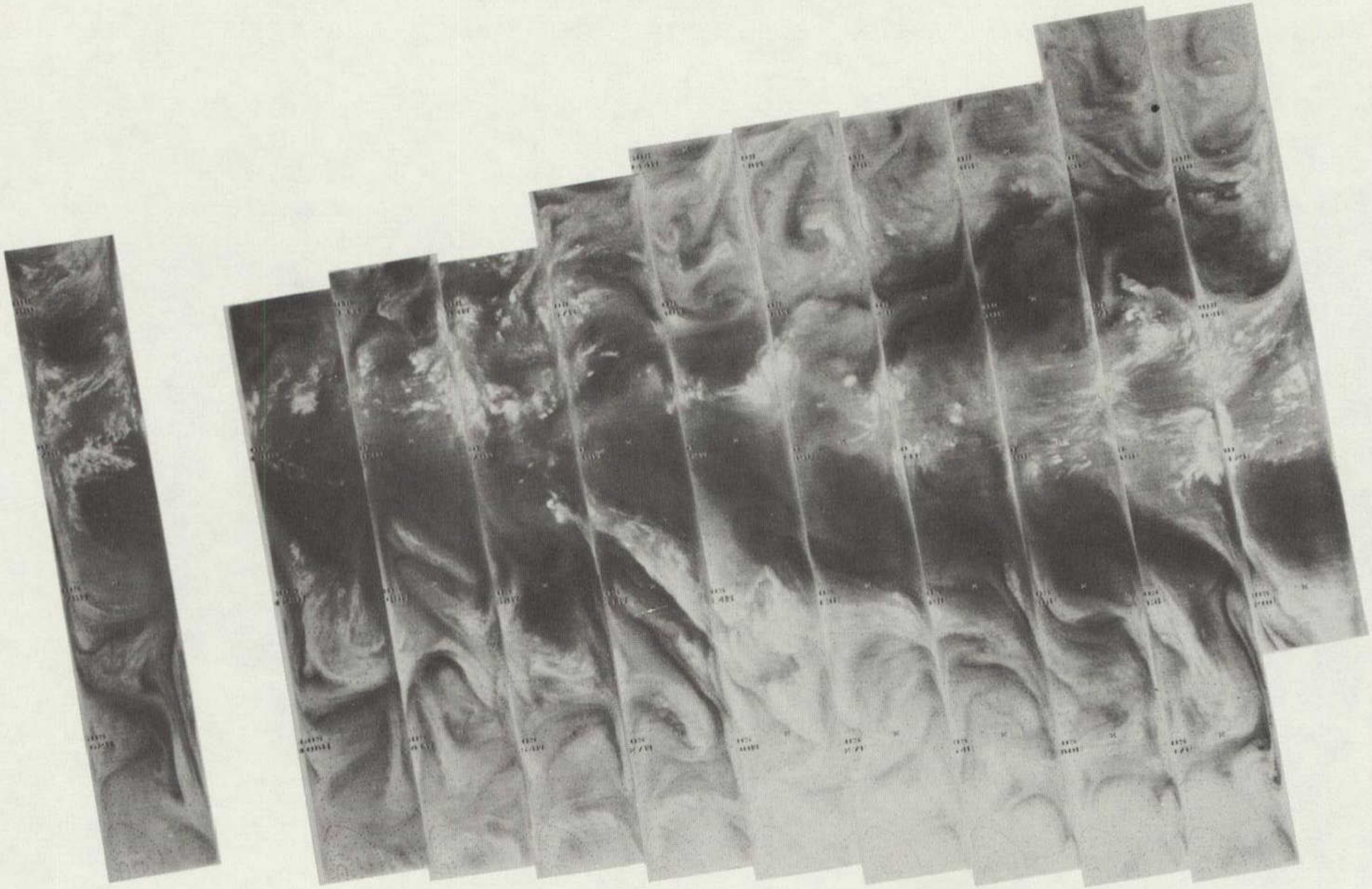
6.7 μm



5744 5743 5742 5741 5740 5739 5738 5737 5736 5735 5734 5733 5732

13 AUG 76

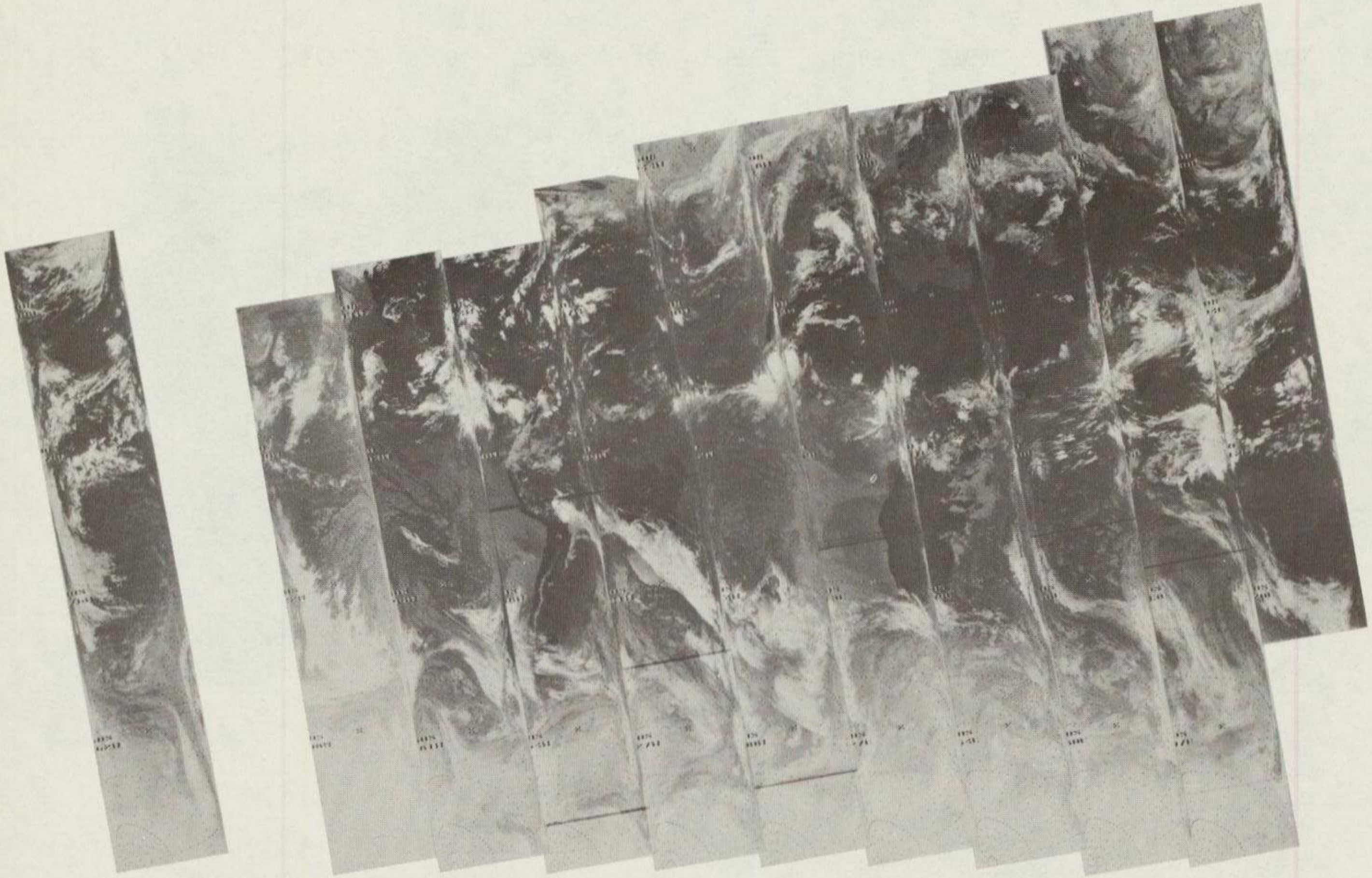
11.5 μm



5758 5757 5756 5755 5754 5753 5752 5751 5750 5749 5748 5747 5746 5745

14 AUG 76

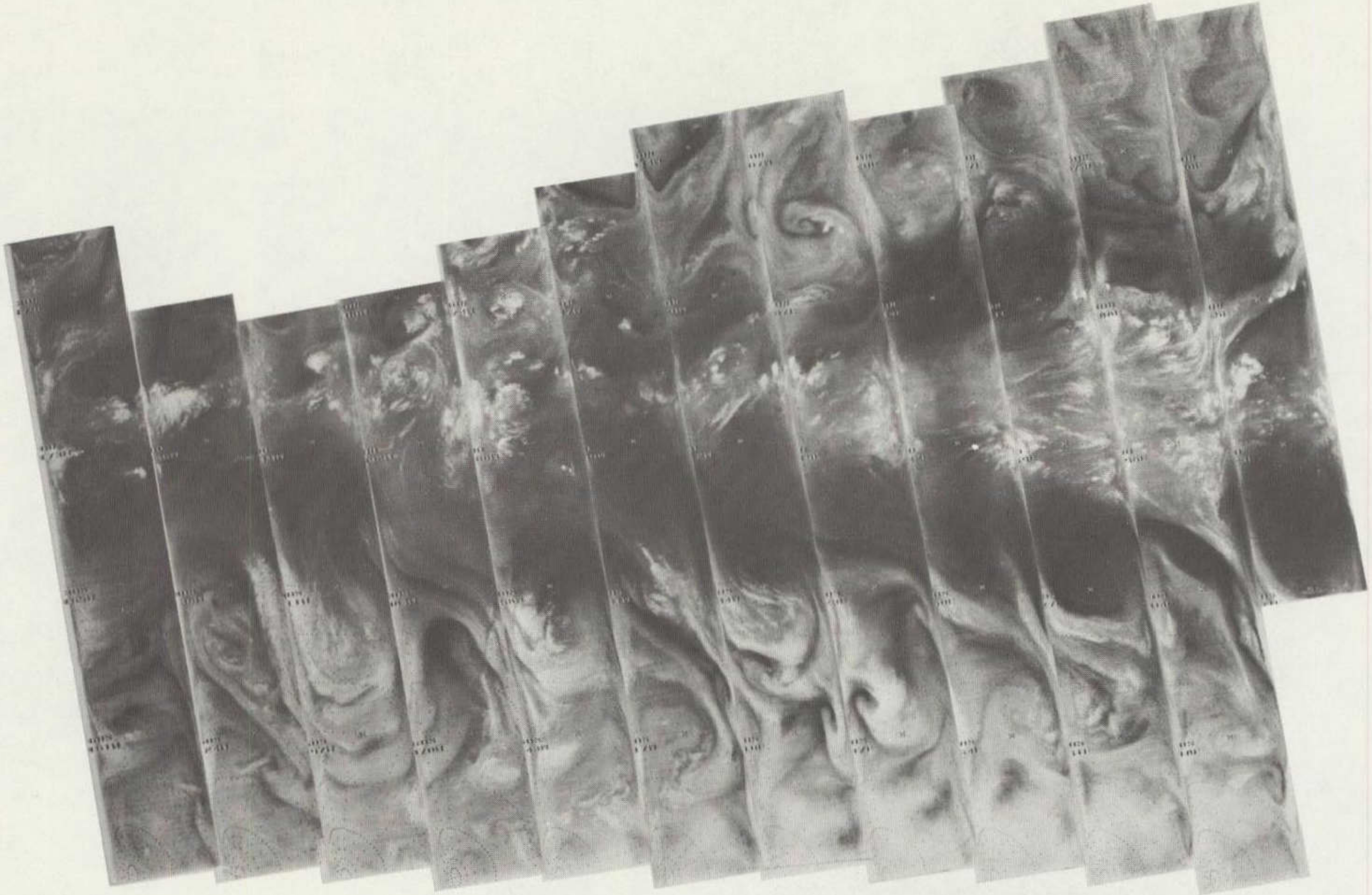
6.7 μm



5758 5757 5756 5755 5754 5753 5752 5751 5750 5749 5748 5747 5746 5745

14 AUG 76

11.5 μm



5771 5770 5769 5768 5767 5766 5765 5764 5763 5762 5761 5760 5759

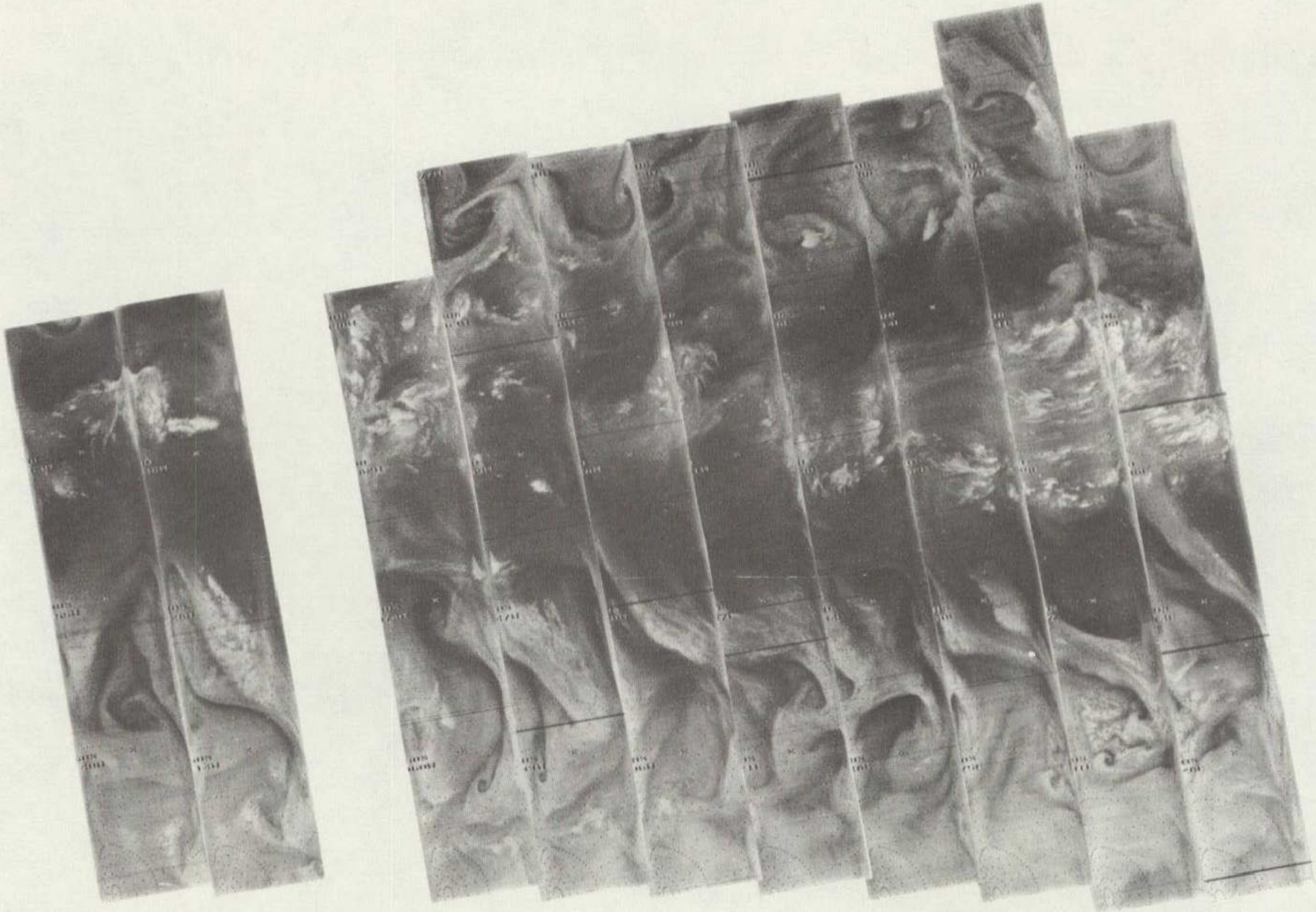
15 AUG 76

6.7 μm

5771 5770 5769 5768 5767 5766 5765 5764 5763 5762 5761 5760 5759

15 AUG 76

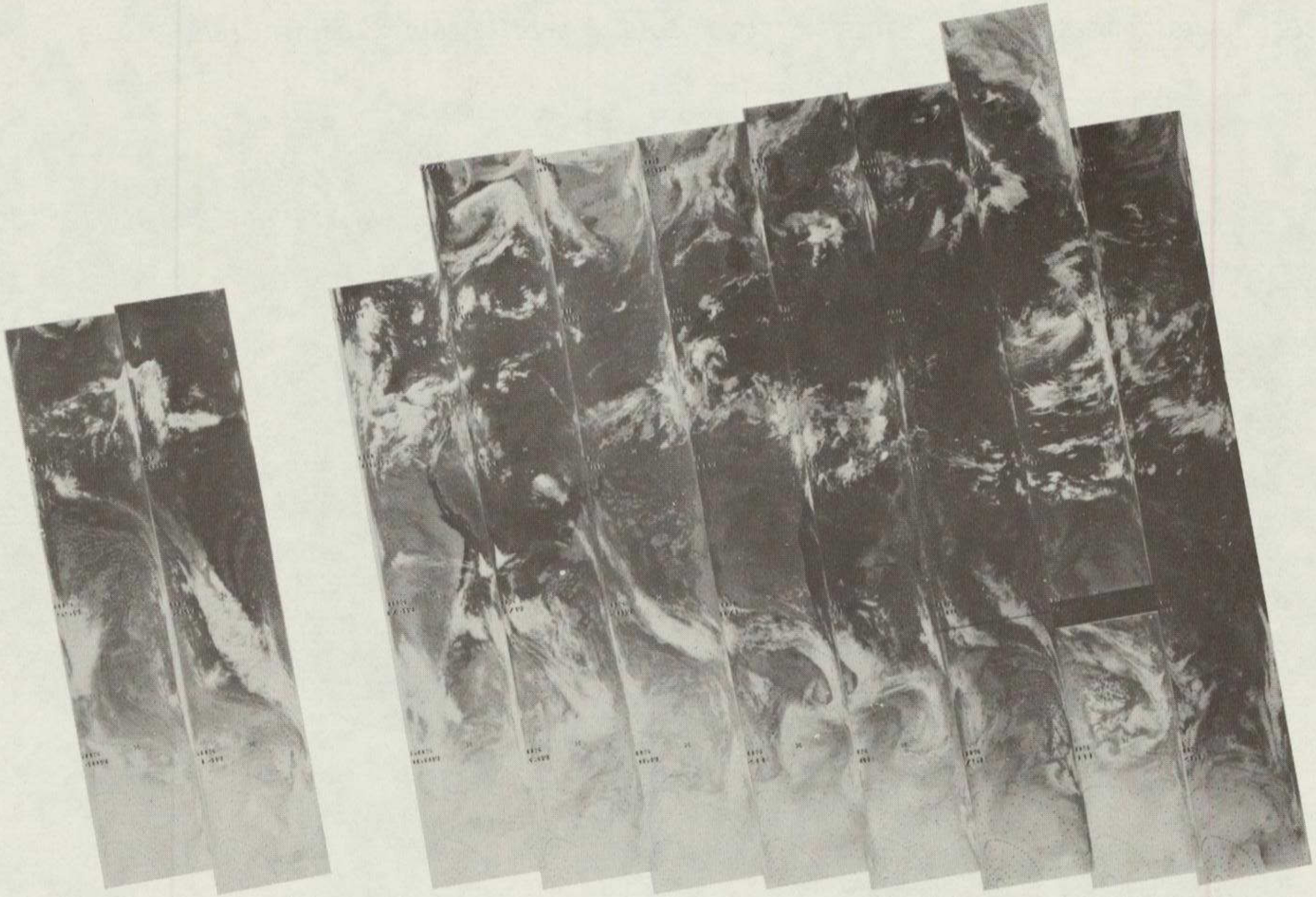
11.5 μm



5784 5783 5782 5781 5780 5779 5778 5777 5776 5775 5774 5773 5772

16 AUG 76

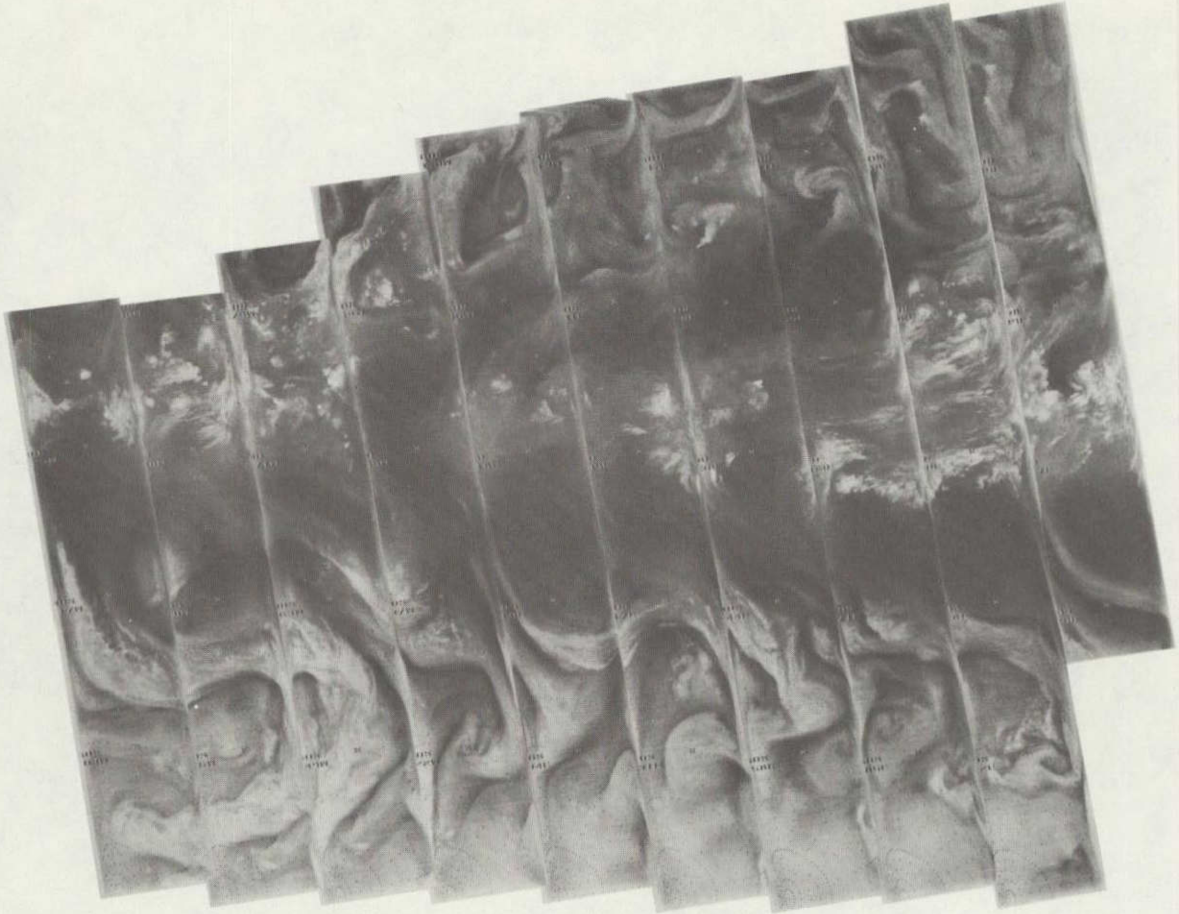
6.7 μm



5784 5783 5782 5781 5780 5779 5778 5777 5776 5775 5774 5773 5772

16 AUG 76

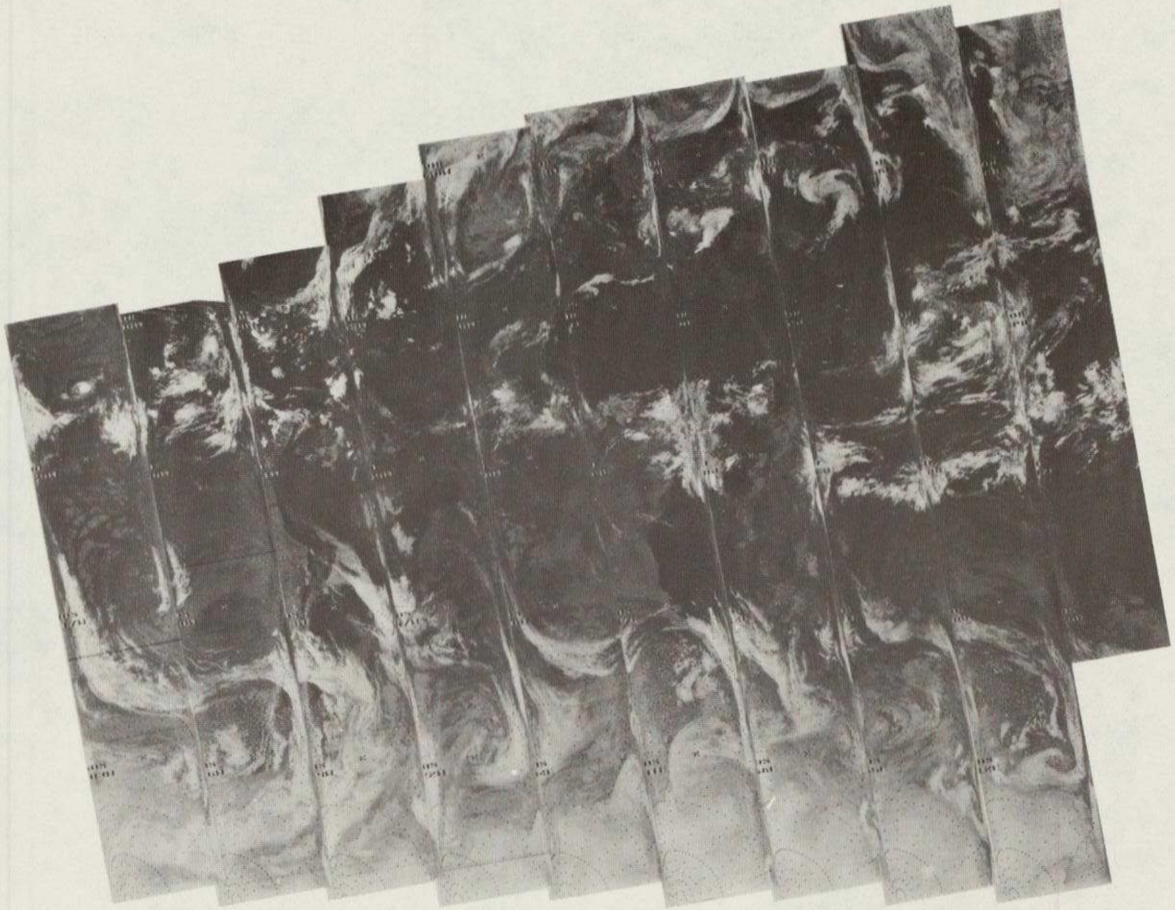
11.5 μm



5798 5797 5796 5795 5794 5793 5792 5791 5790 5789 5788 5787 5786 5785

17 AUG 76

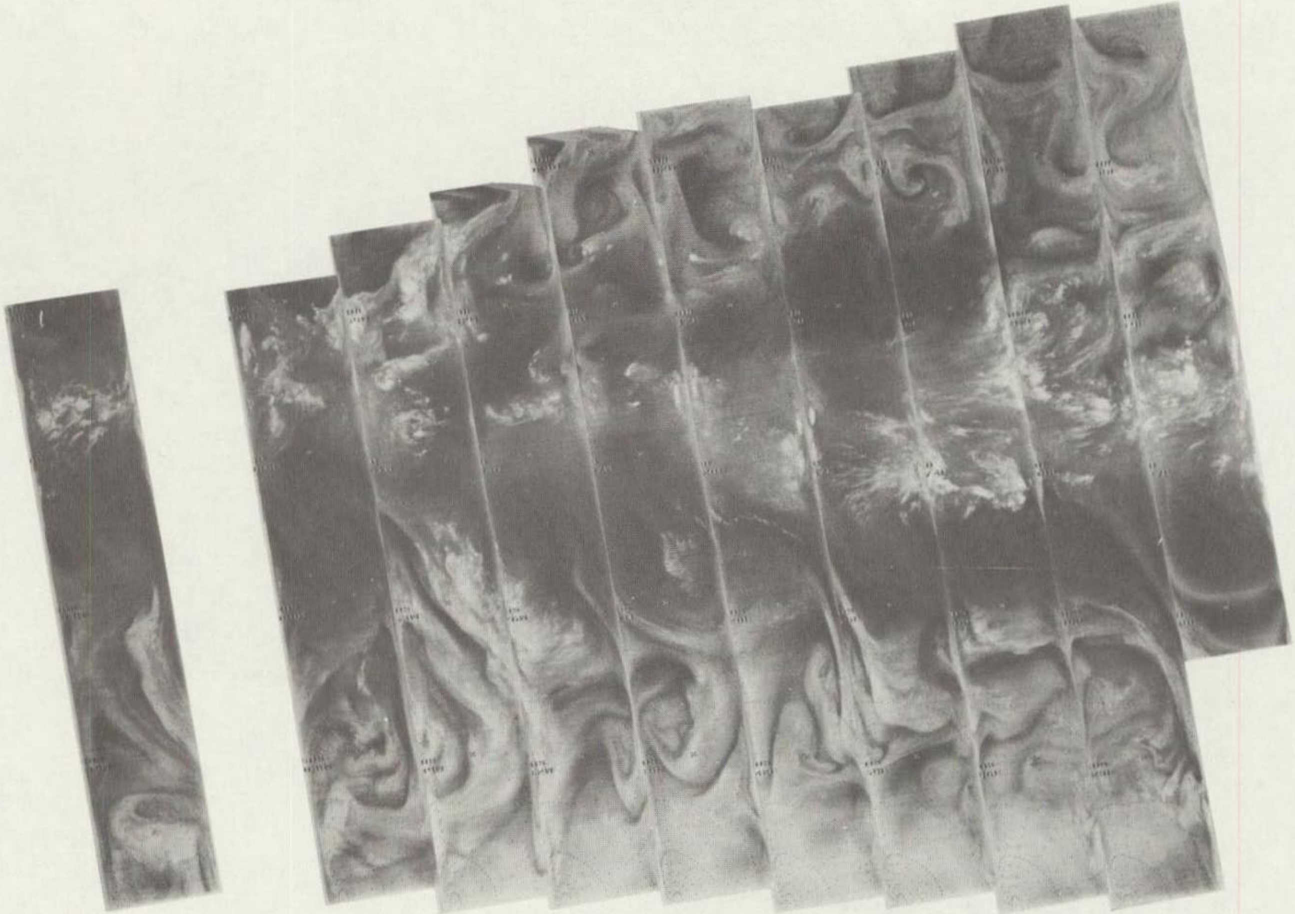
6.7 μm



5798 5797 5796 5795 5794 5793 5792 5791 5790 5789 5788 5787 5786 5785

17 AUG 76

11.5 μm

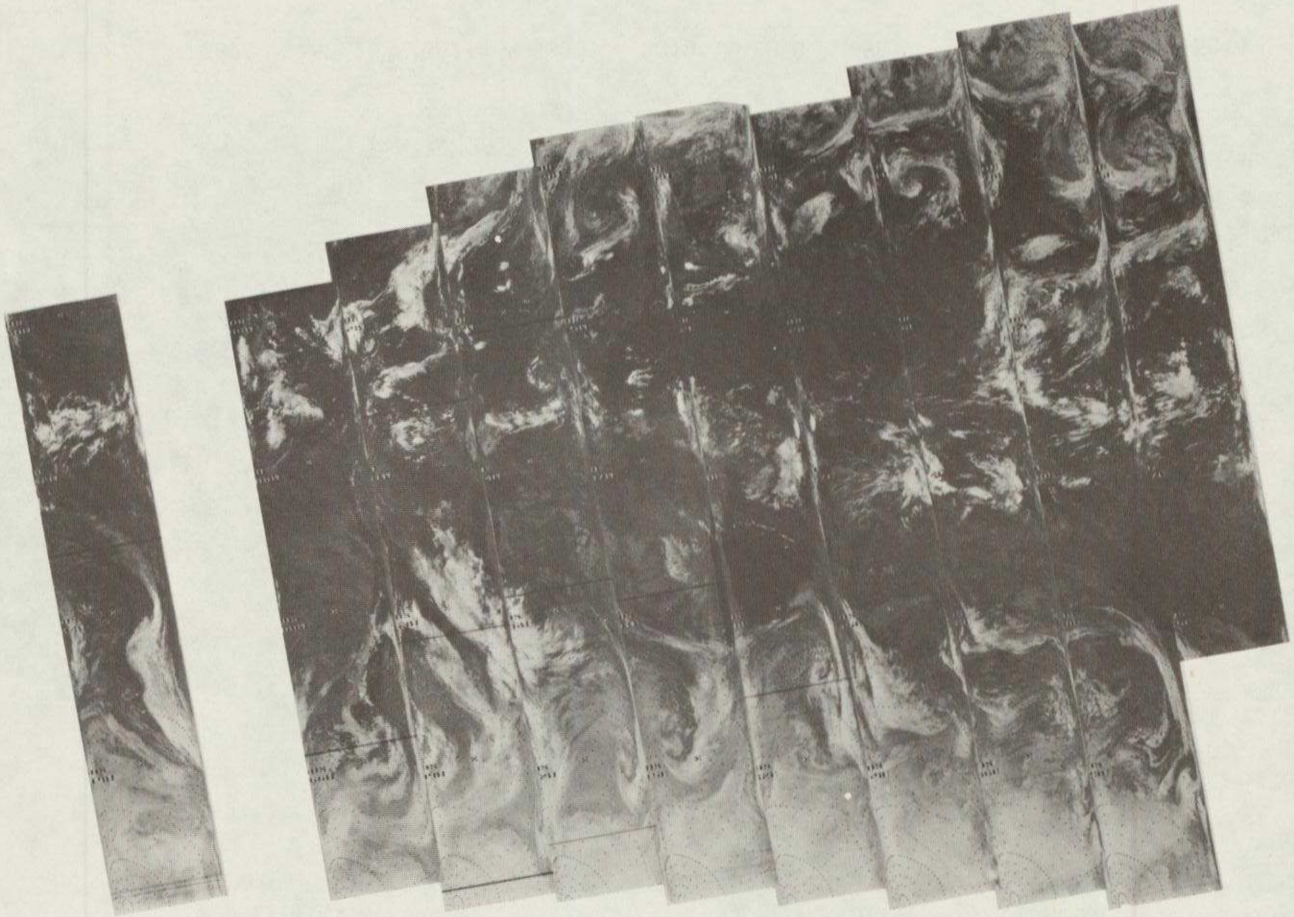


5811 5810 5809 5808 5807 5806 5805 5804 5803 5802 5801 5800 5799

18 AUG 76

6.7 μm

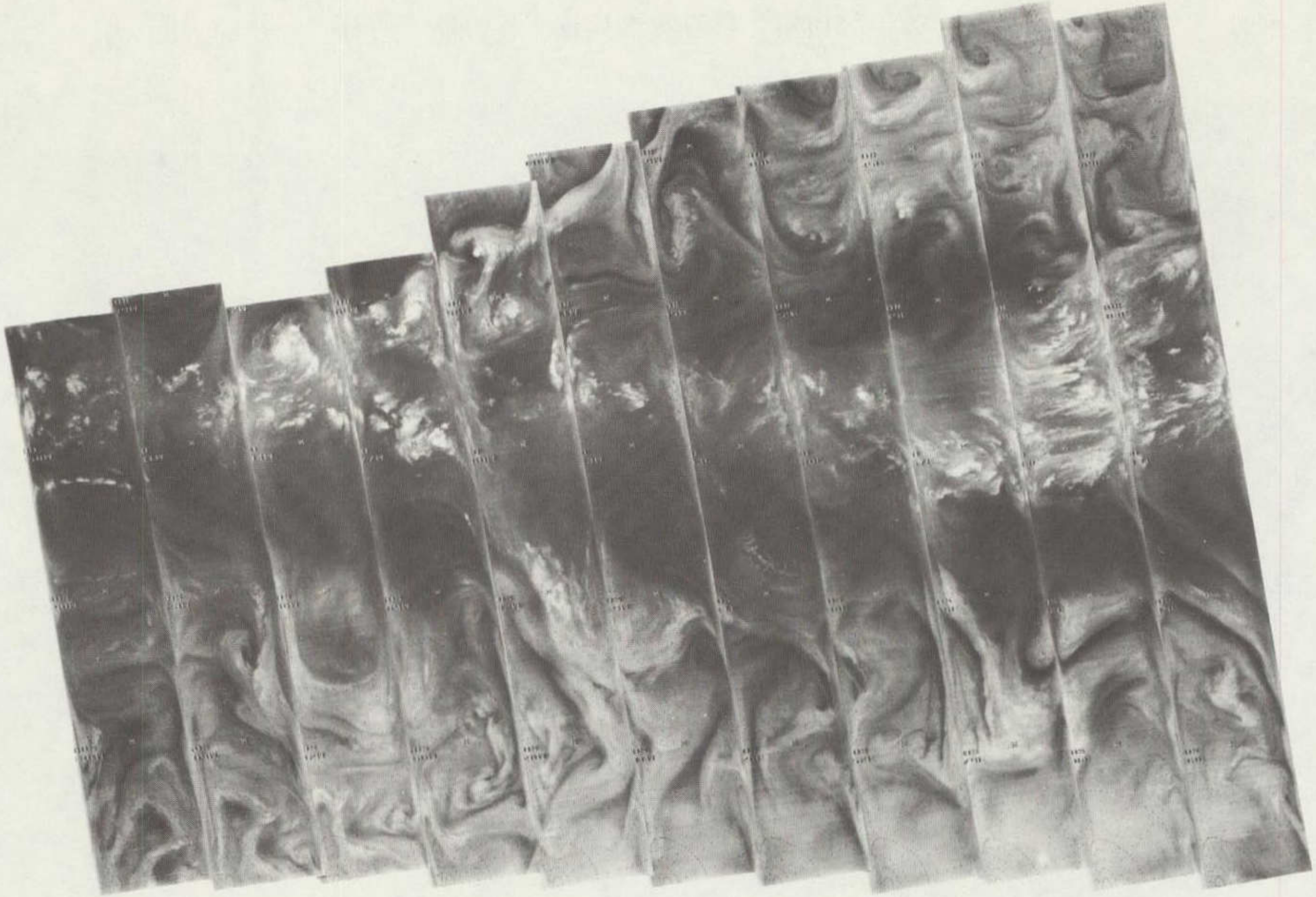
C-4



5811 5810 5809 5808 5807 5806 5805 5804 5803 5802 5801 5800 5799

18 AUG 76

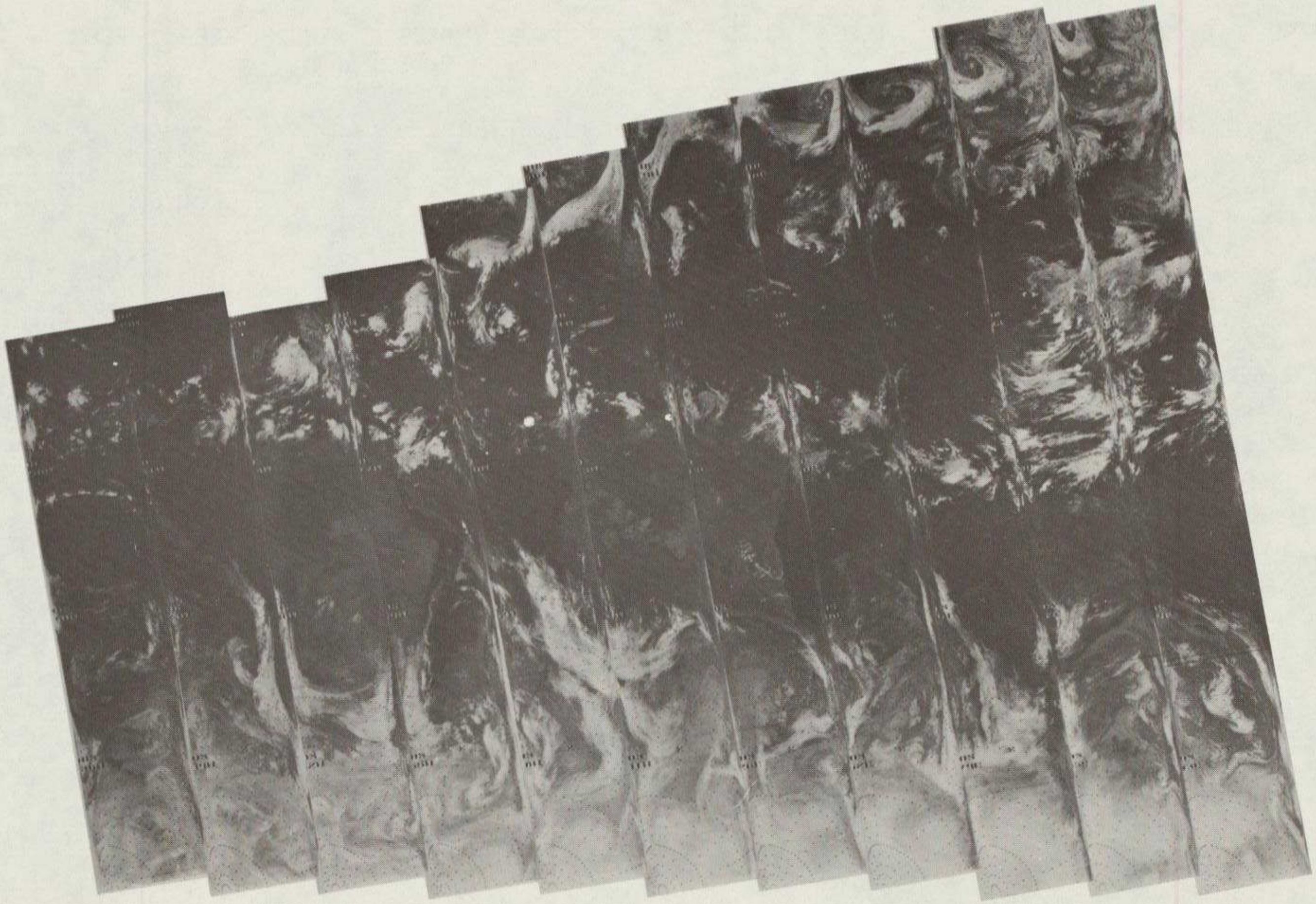
11.5 μm



5824 5823 5822 5821 5820 5819 5818 5817 5816 5815 5814 5813 5812

19 AUG 76

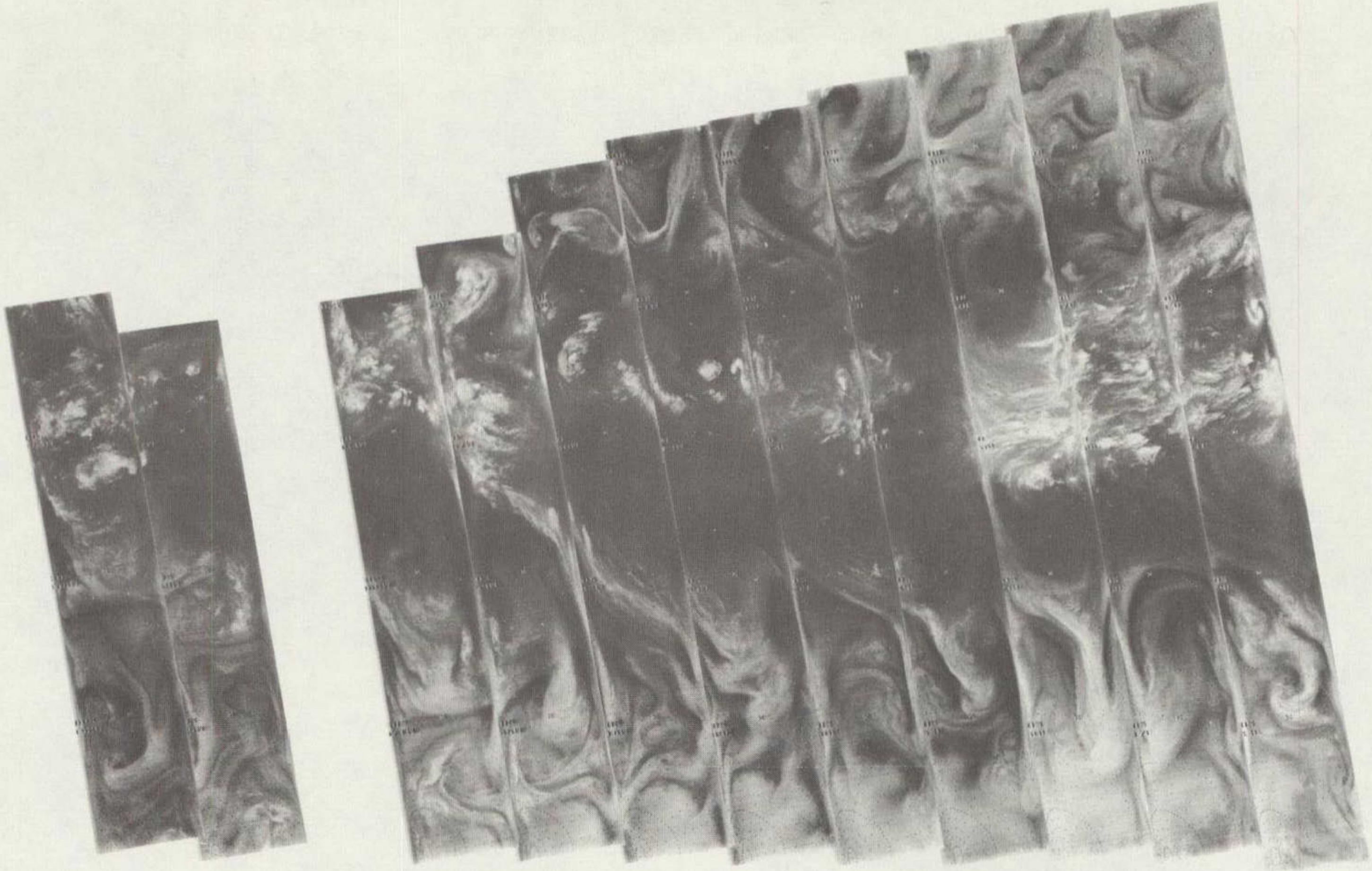
6.7 μm



5824 5823 5822 5821 5820 5819 5818 5817 5816 5815 5814 5813 5812

19 AUG 76

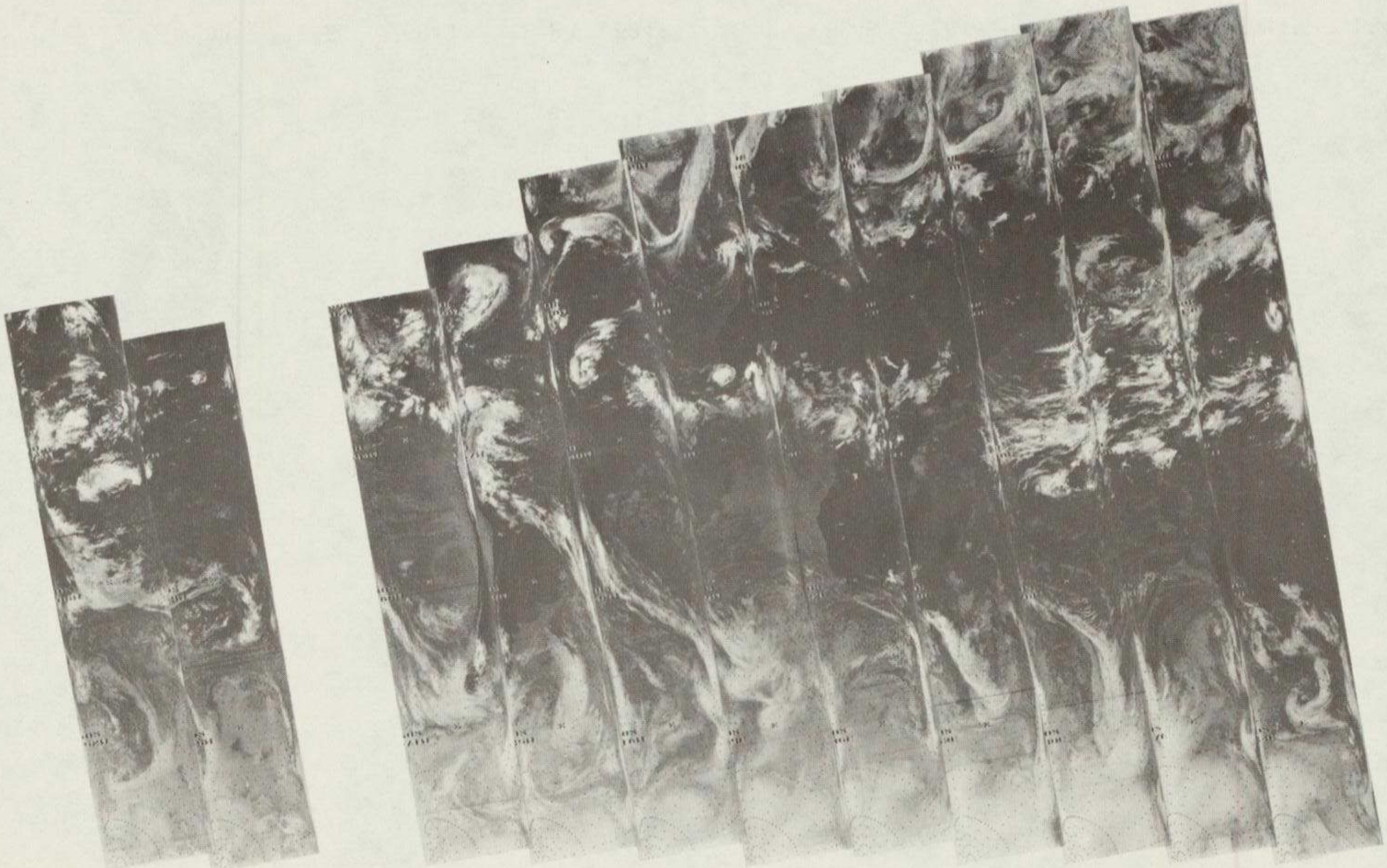
11.5 μm



5838 5837 5836 5835 5834 5833 5832 5831 5830 5829 5828 5827 5826 5825

20 AUG 76

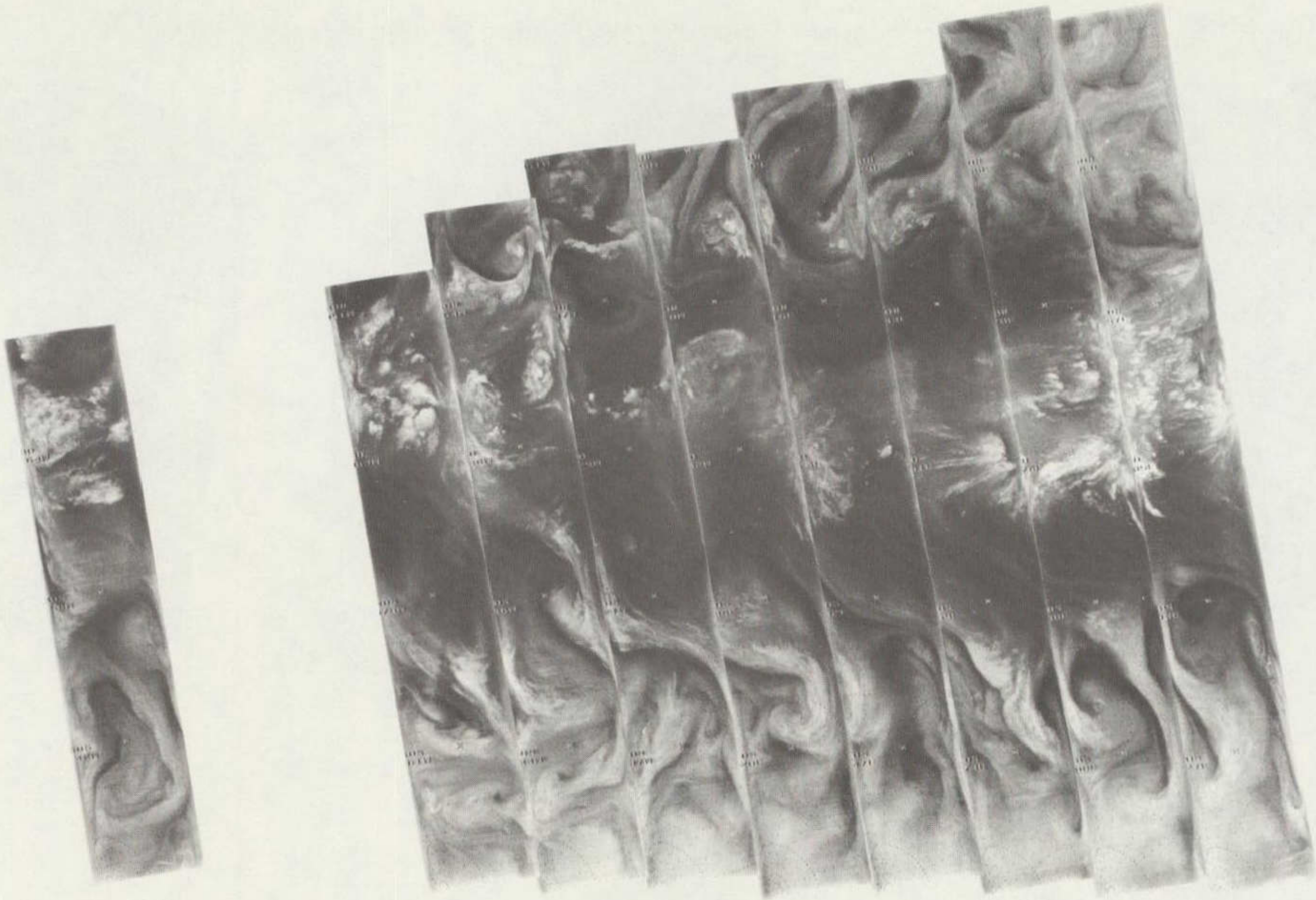
6.7 μm



5838 5837 5836 5835 5834 5833 5832 5831 5830 5829 5828 5827 5826 5825

20 AUG 76

11.5 μm



5851 5850 5849 5848 5847 5846 5845 5844 5843 5842 5841 5840 5839

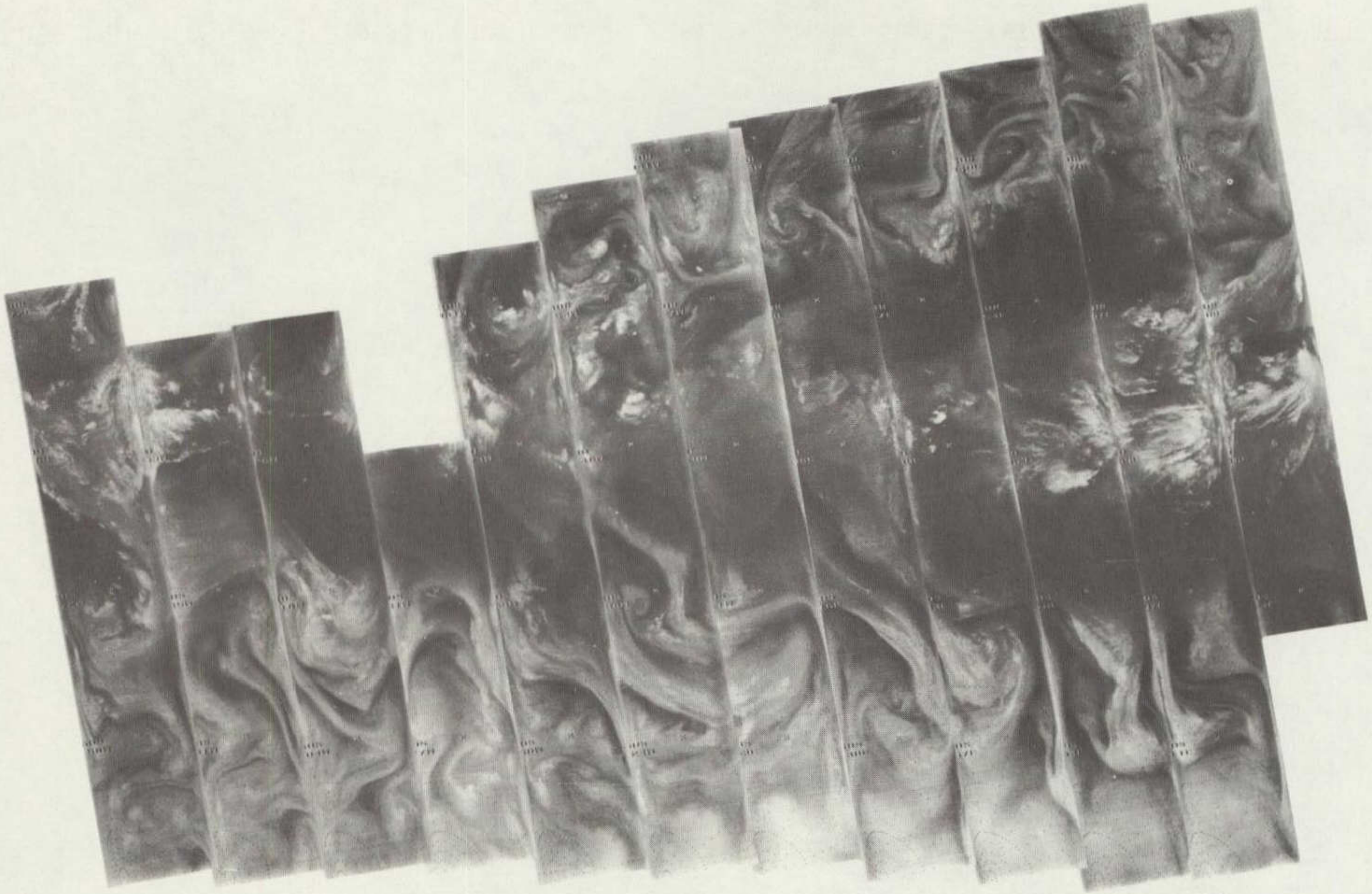
21 AUG 76

6;7 μm

5851 5850 5849 5848 5847 5846 5845 5844 5843 5842 5841 5840 5839

21 AUG 76

11.5 μm



5865 5864 5863 5862 5861 5860 5859 5858 5857 5856 5855 5854 5853 5852

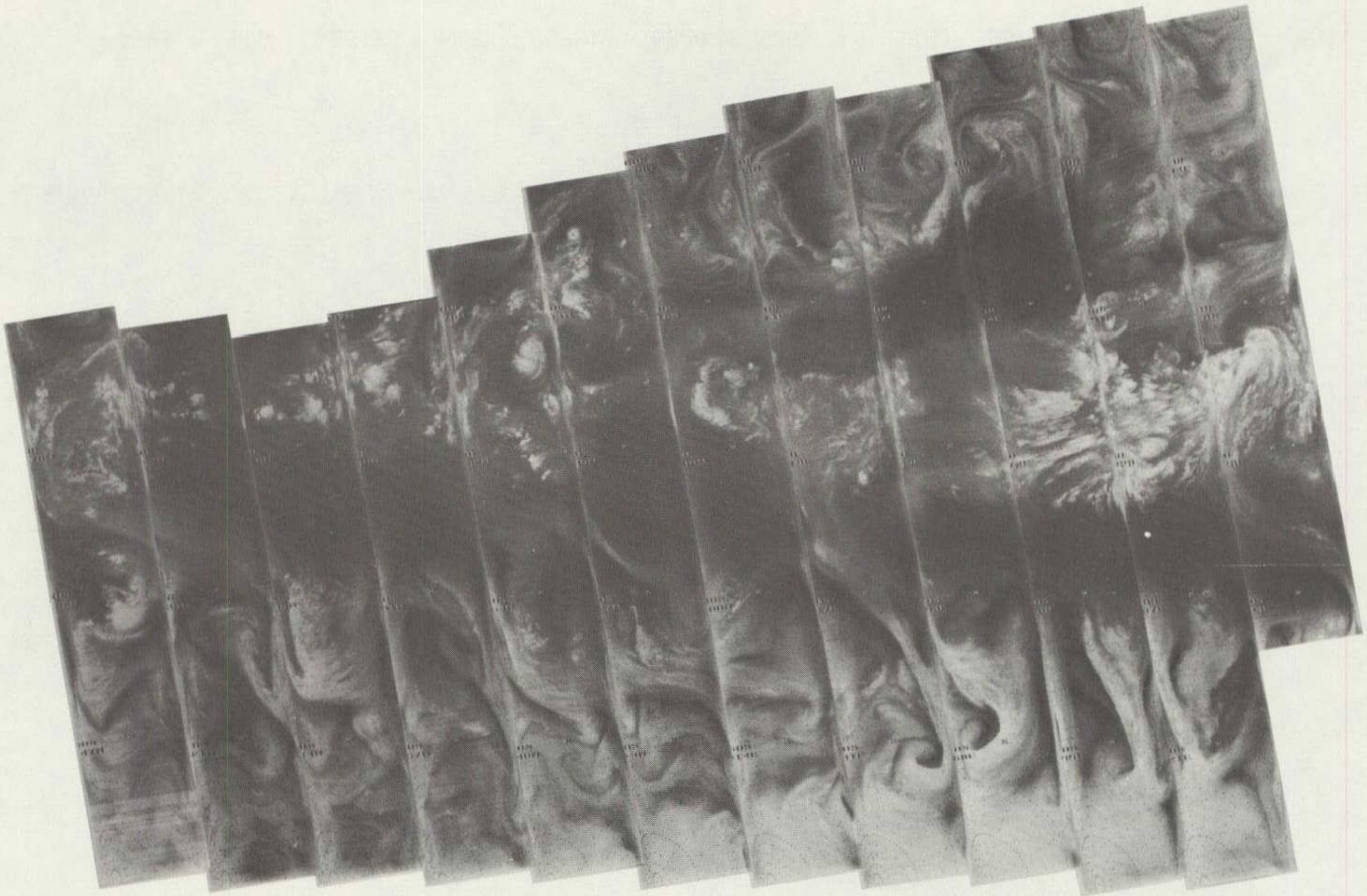
22 AUG 76

6.7 μm

5865 5864 5863 5862 5861 5860 5859 5858 5857 5856 5855 5854 5853 5852

22 AUG 76

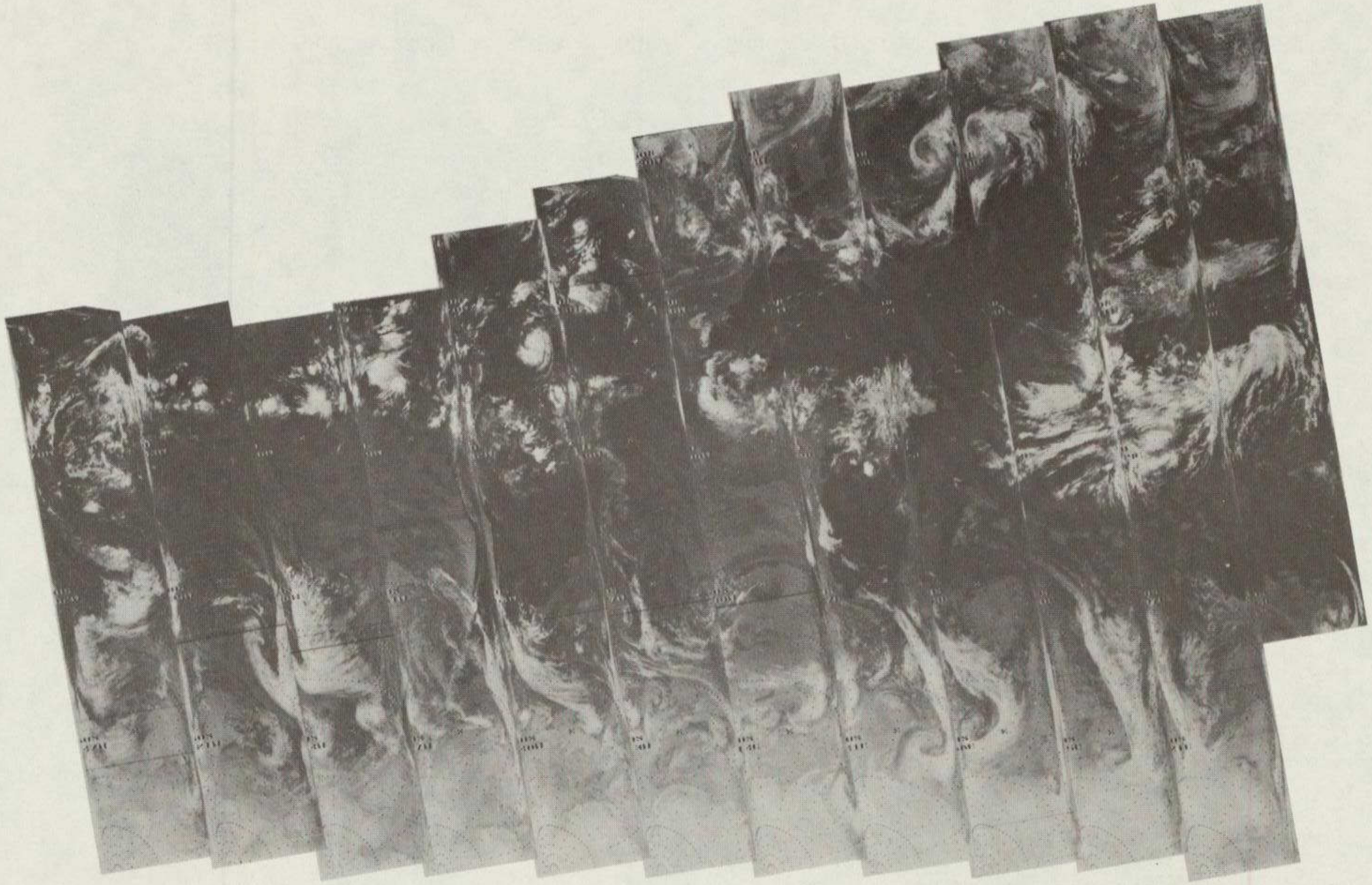
11.5 μm



5878 5877 5876 5875 5874 5873 5872 5871 5870 5869 5868 5867 5866

23 AUG 76

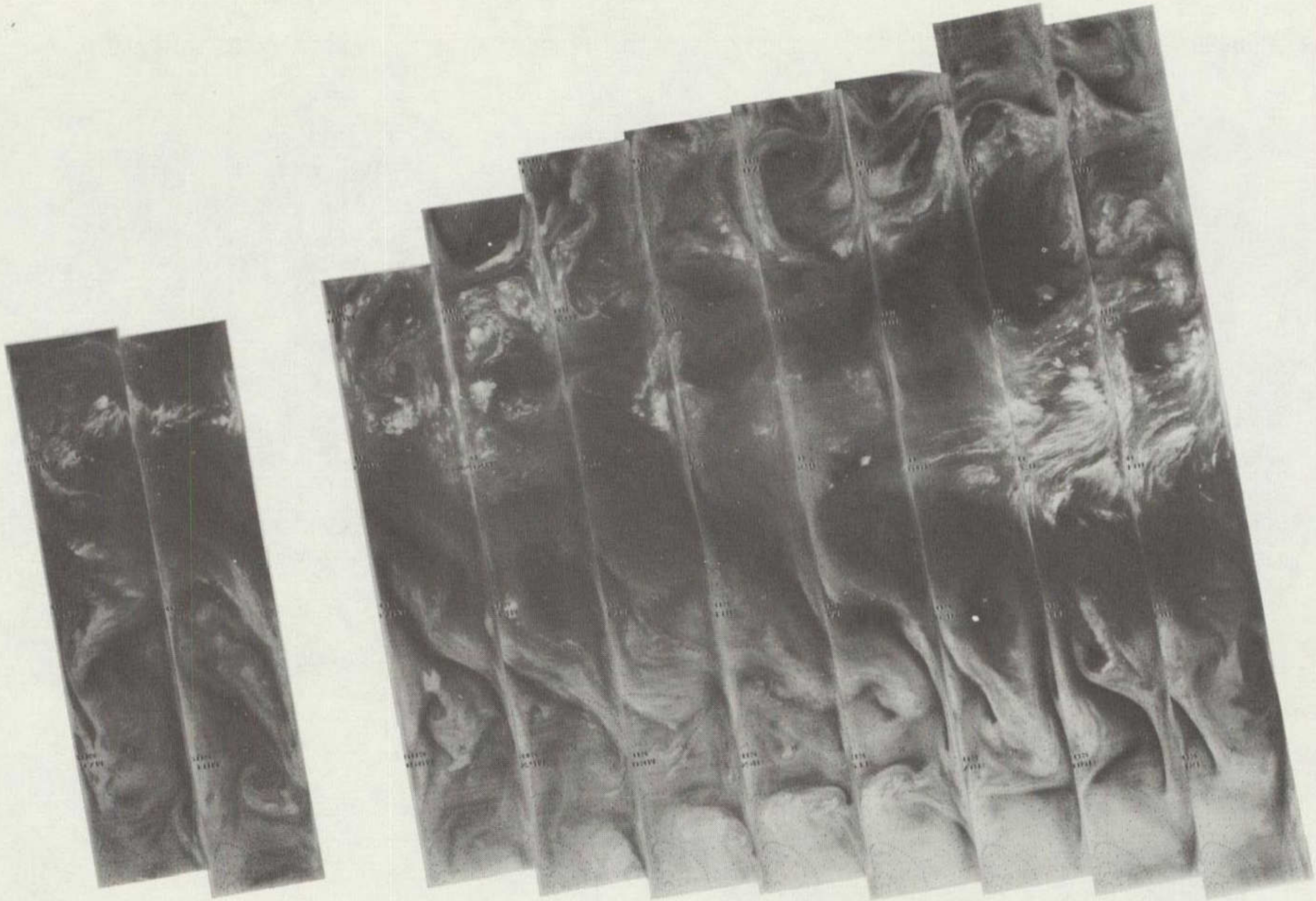
6.7 μm



5878 5877 5876 5875 5874 5873 5872 5871 5870 5869 5868 5867 5866

23 AUG 76

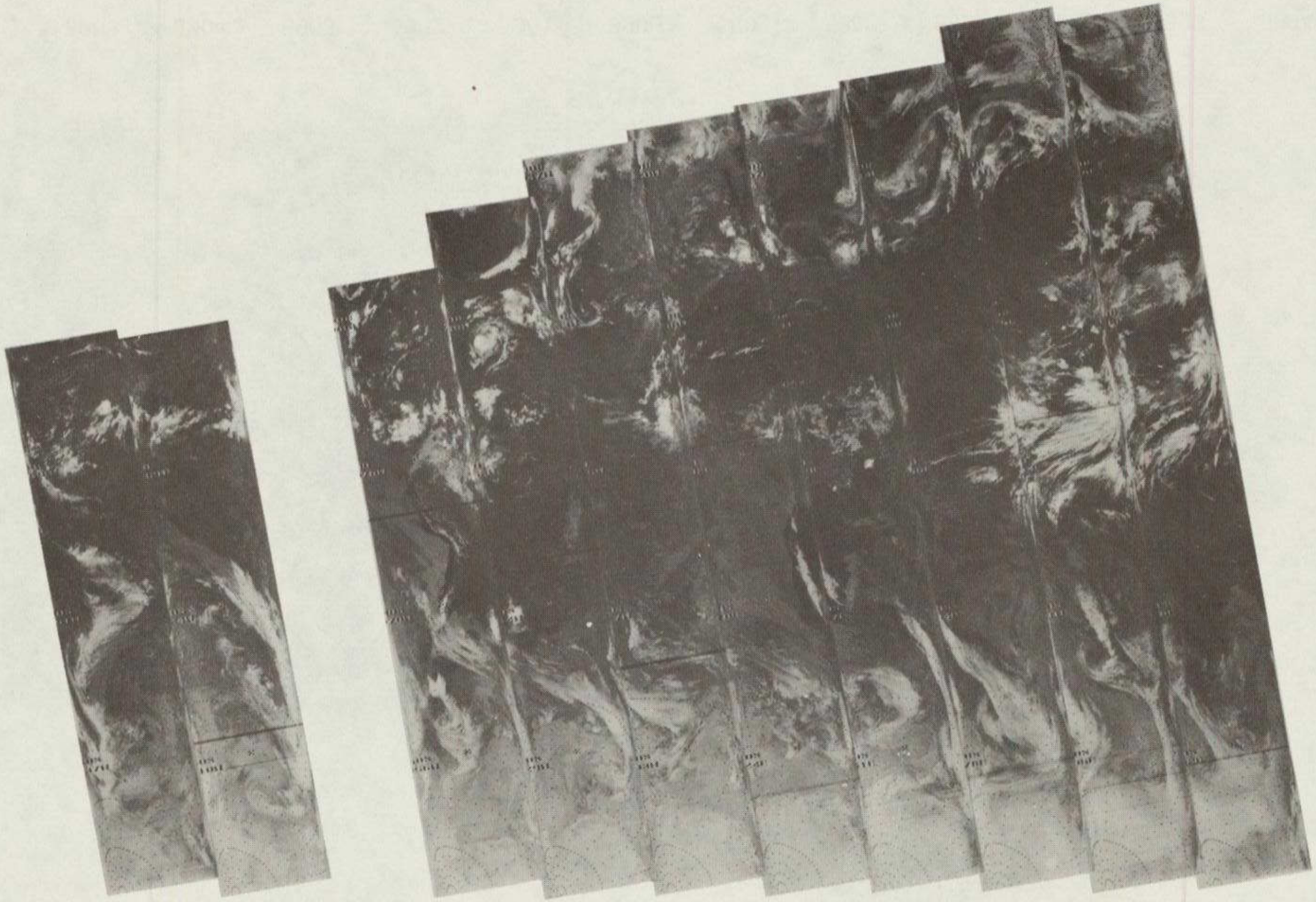
11.5 μm



5891 5890 5889 5888 5887 5886 5885 5884 5883 5882 5881 5880 5879

24 AUG 76

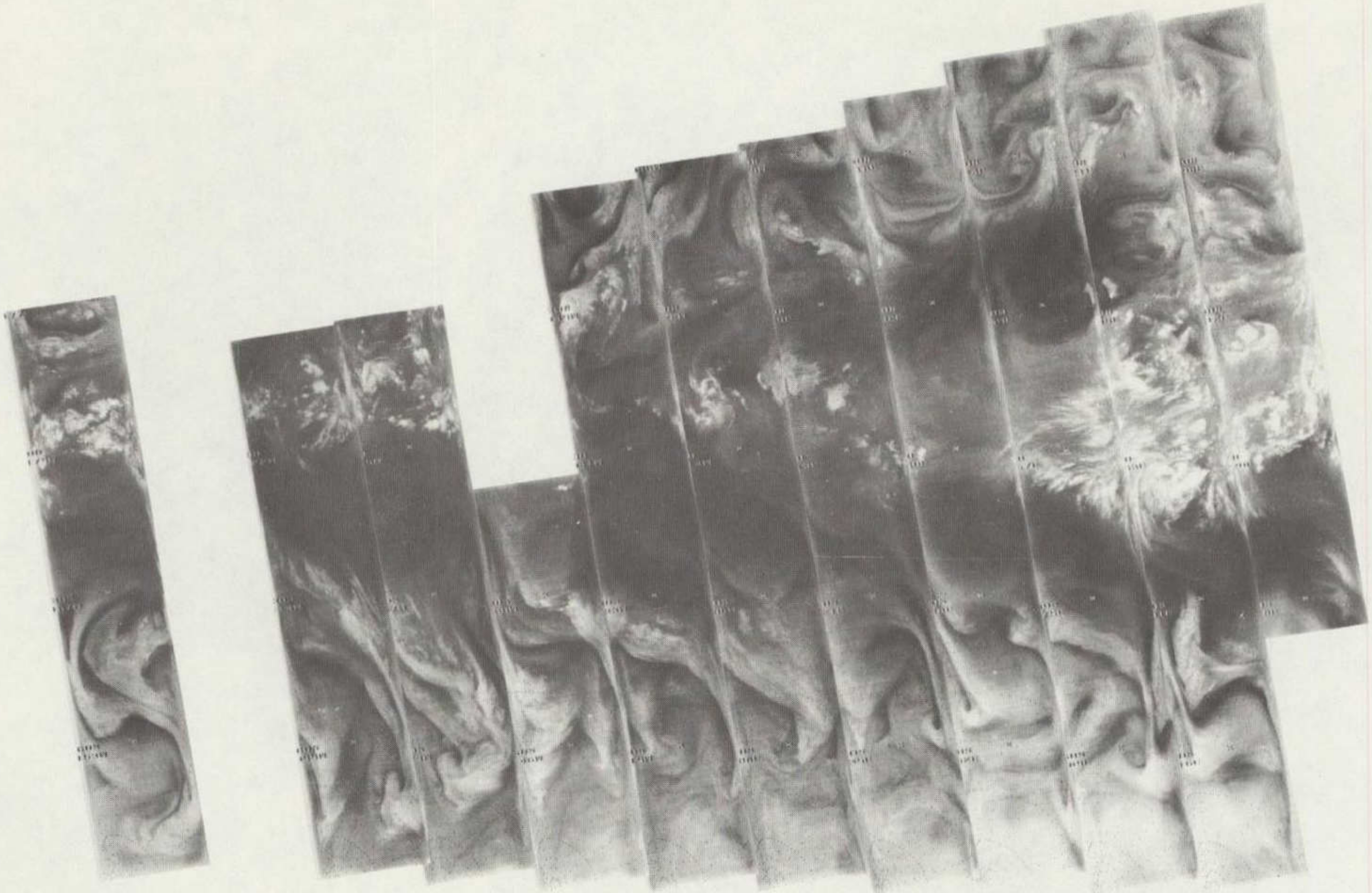
6.7 μm



5891 5890 5889 5888 5887 5886 5885 5884 5883 5882 5881 5880 5879

24 AUG 76

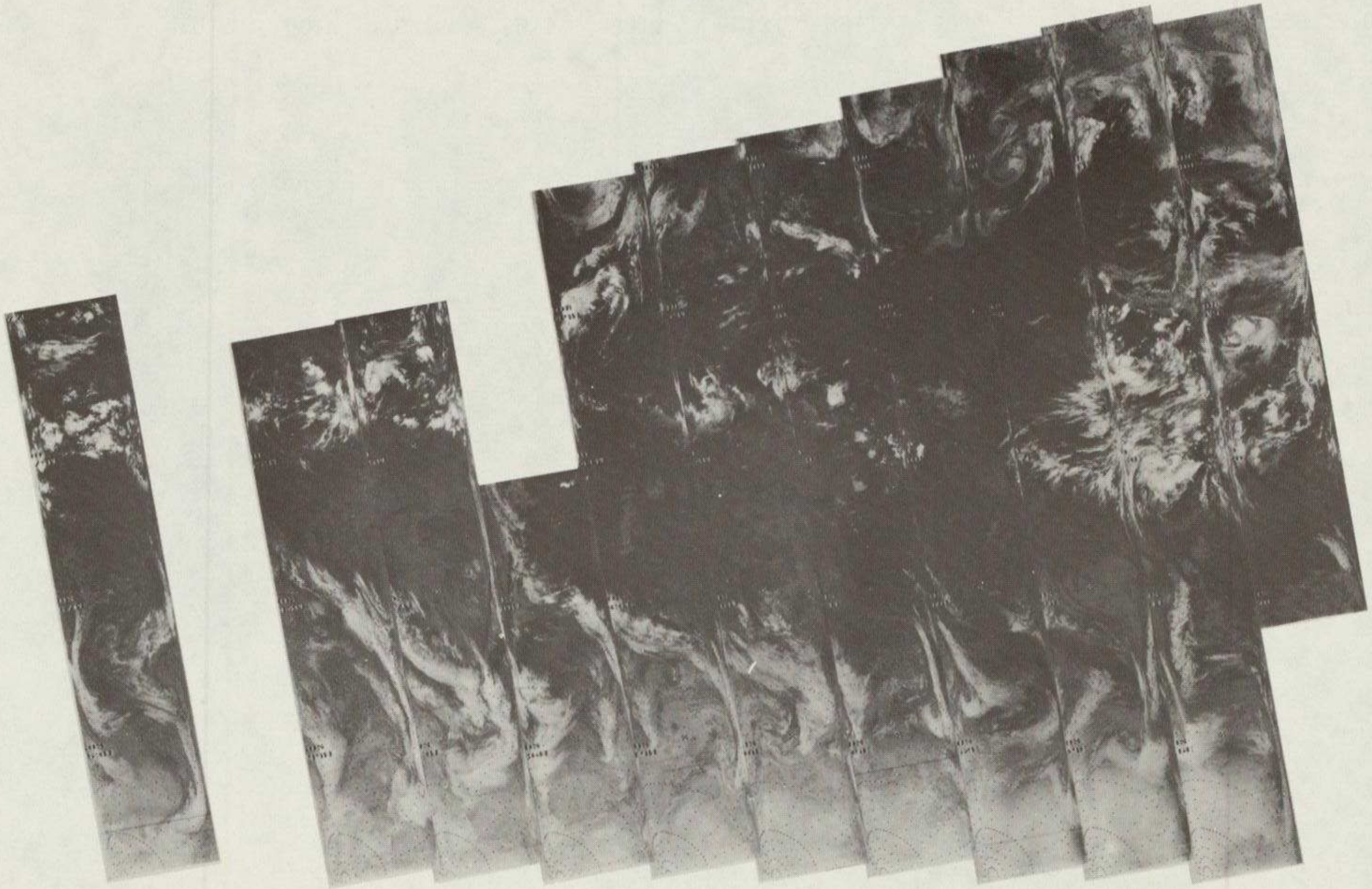
11.5 μm



5905 5904 5903 5902 5901 5900 5899 5898 5897 5896 5895 5894 5893 5892

25 AUG 76

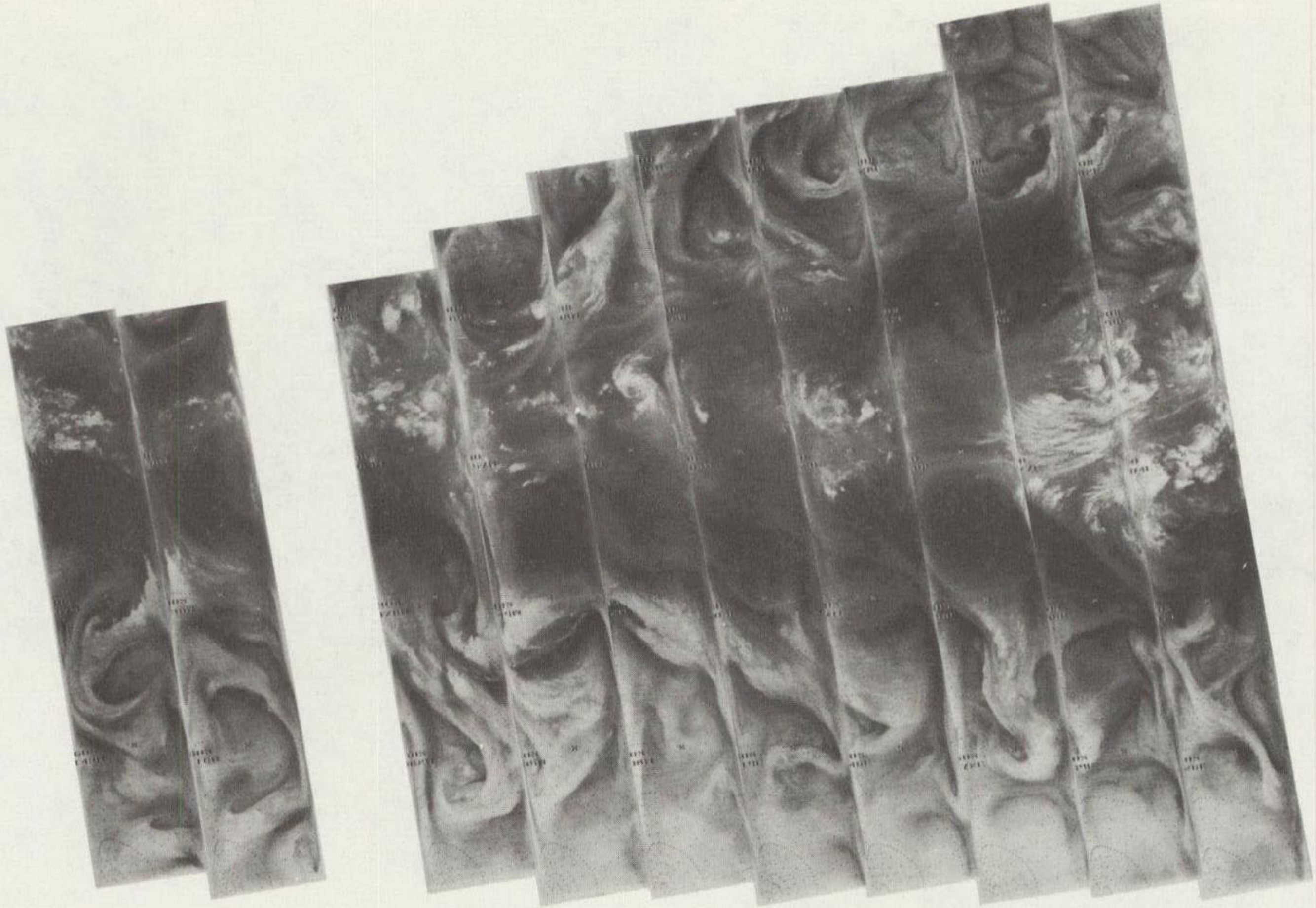
6.7 μm



5905 5904 5903 5902 5901 5900 5899 5898 5897 5896 5895 5894 5893 5892

25 AUG 76

11.5 μm



5918 5917 5916 5915 5914 5913 5912 5911 5910 5909 5908 5907 5906

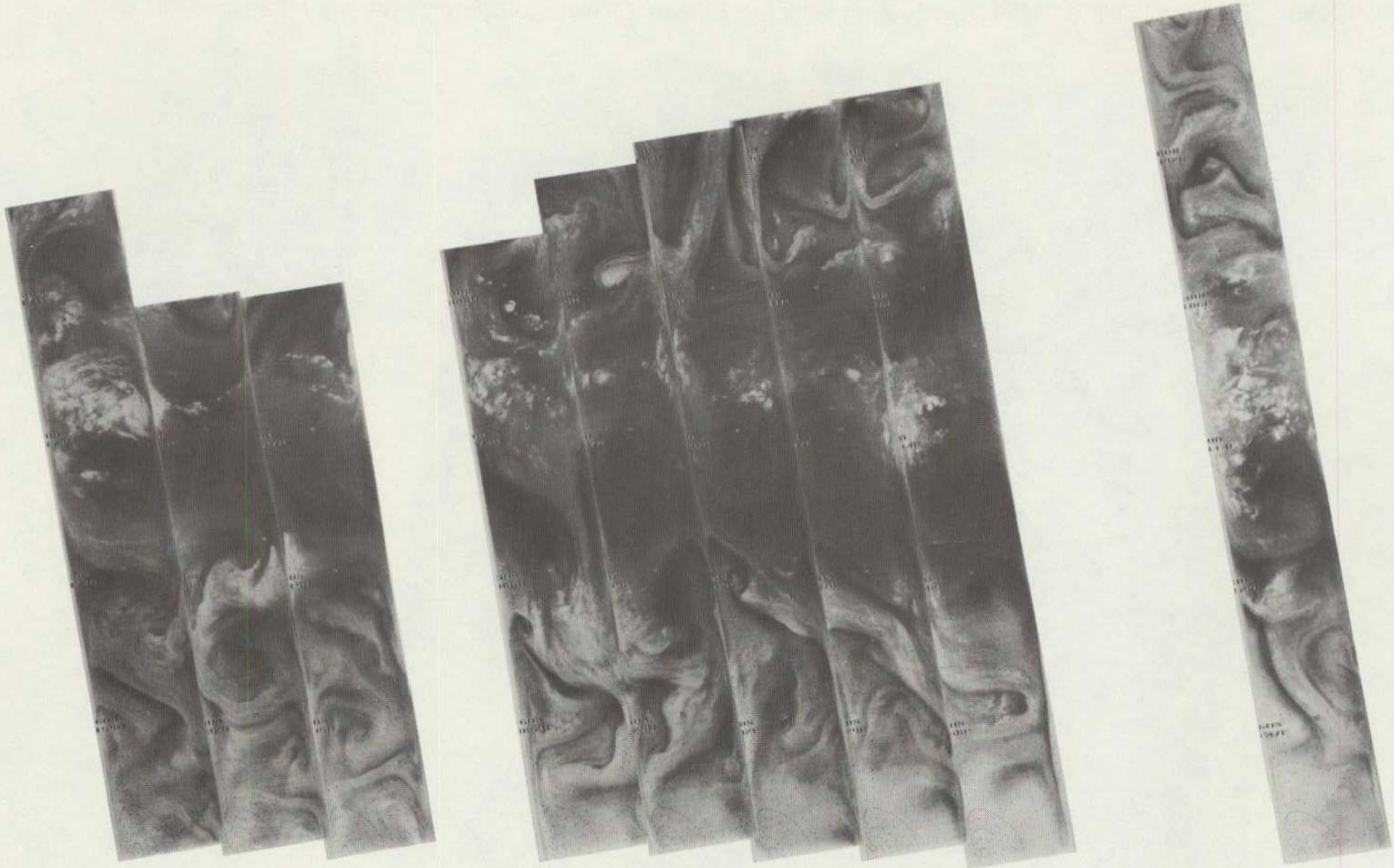
26 AUG 76

6.7 μm

5918 5917 5916 5915 5914 5913 5912 5911 5910 5909 5908 5907 5906

26 AUG 76

11.5 μm



5932 5931 5930 5929 5928 5927 5926 5925 5924 5923 5922 5921 5920 5919

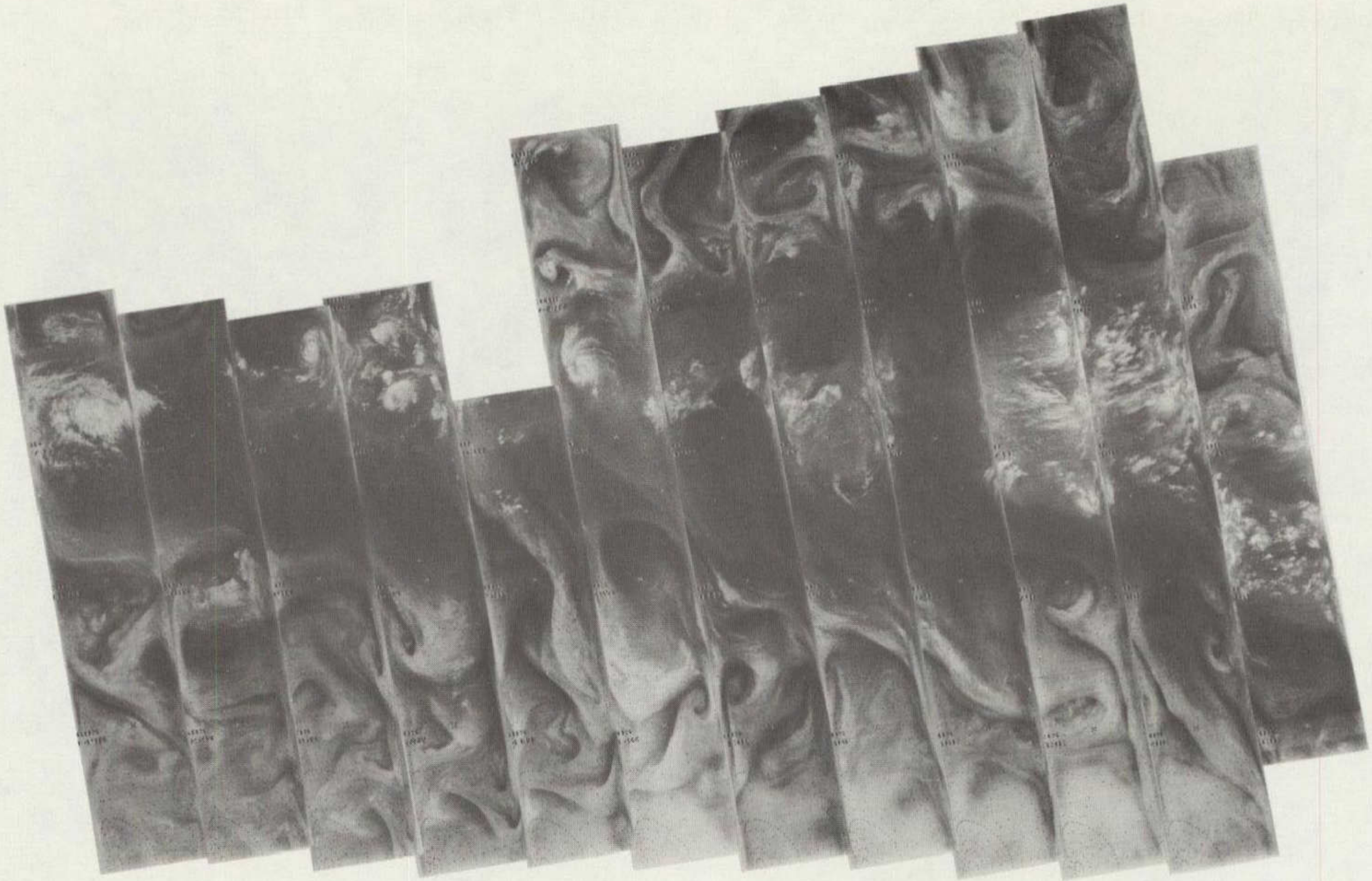
27 AUG 76

6.7 μm

5932 5931 5930 5929 5928 5927 5926 5925 5924 5923 5922 5921 5920 5919

27 AUG 76

11.5 μm



5945 5944 5943 5942 5941 5940 5939 5938 5937 5936 5935 5934 5933

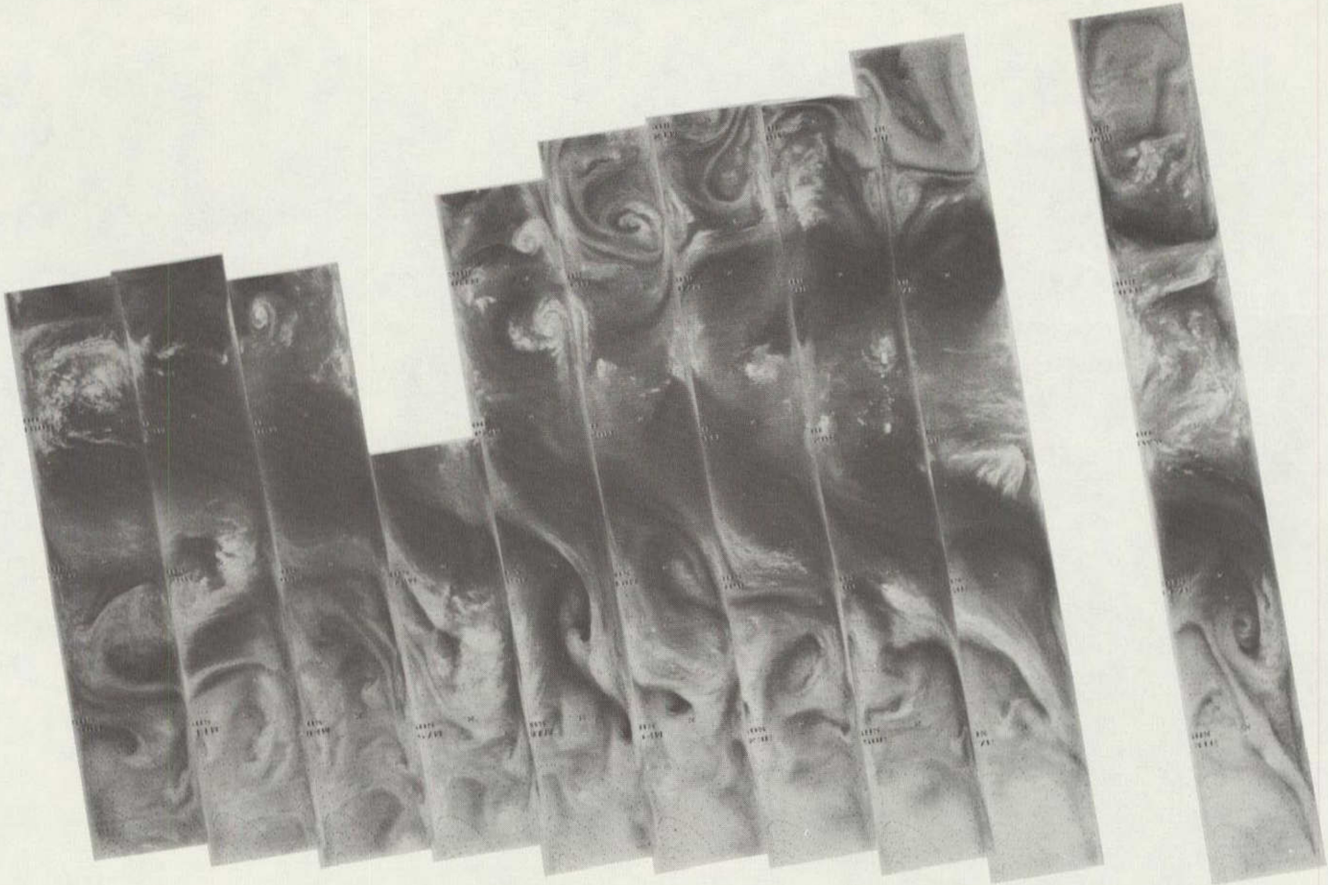
28 AUG 76

6.7 μm

5945 5944 5943 5942 5941 5940 5939 5938 5937 5936 5935 5934 5933

28 AUG 76

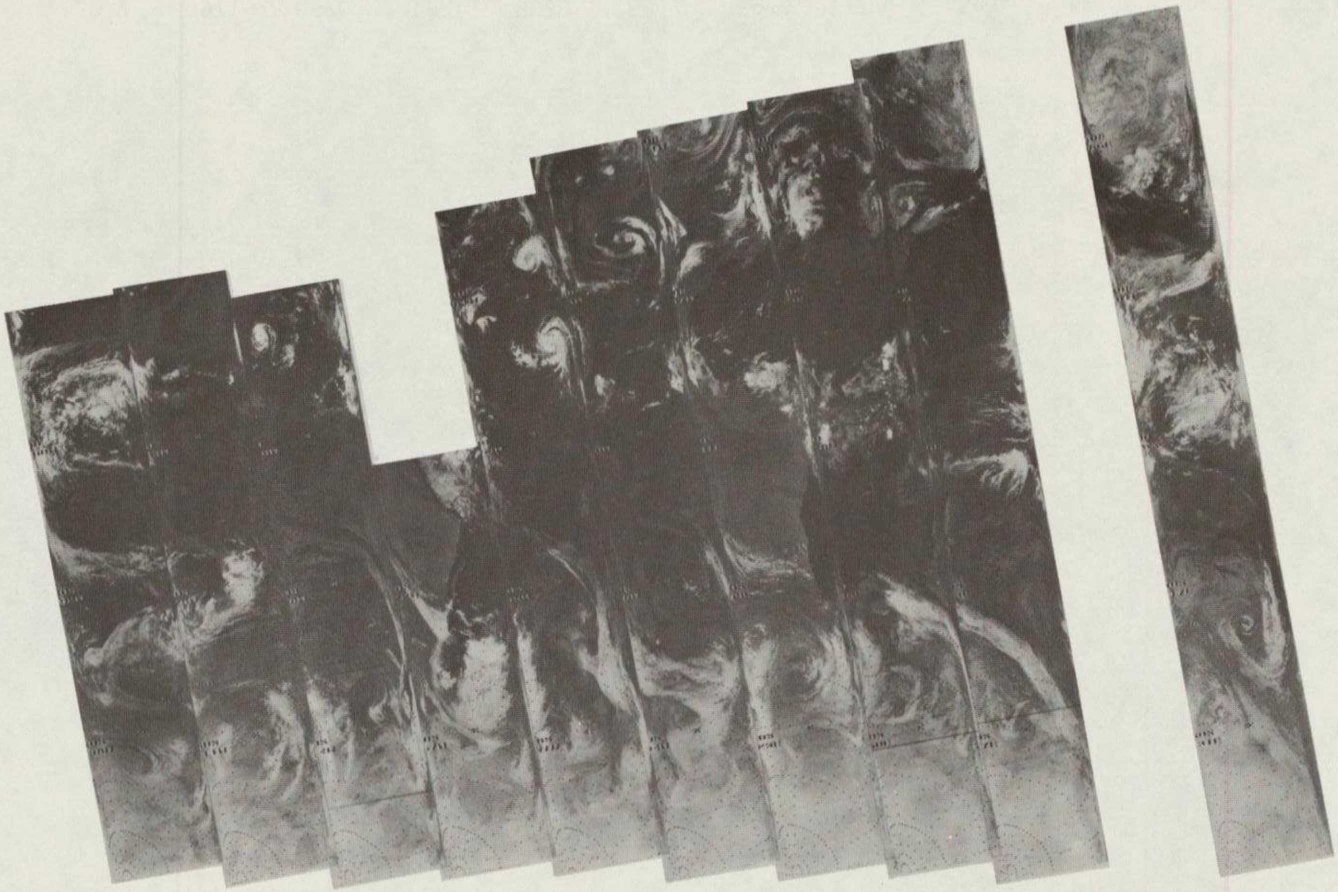
11.5 μm



5958 5957 5956 5955 5954 5953 5952 5951 5950 5949 5948 5947 5946

29 AUG 76

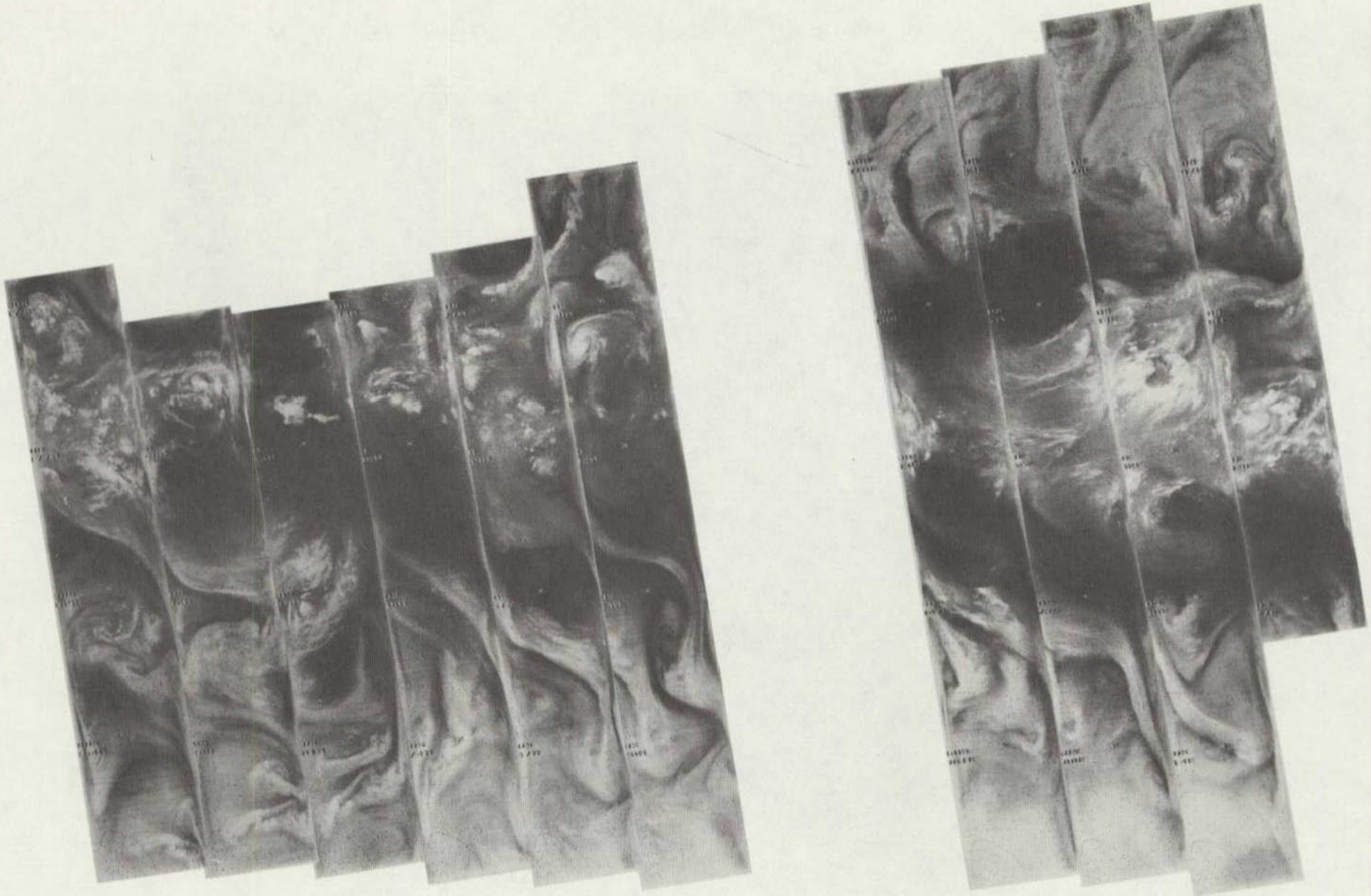
6.7 μm



5958 5957 5956 5955 5954 5953 5952 5951 5950 5949 5948 5947 5946

29 AUG 76

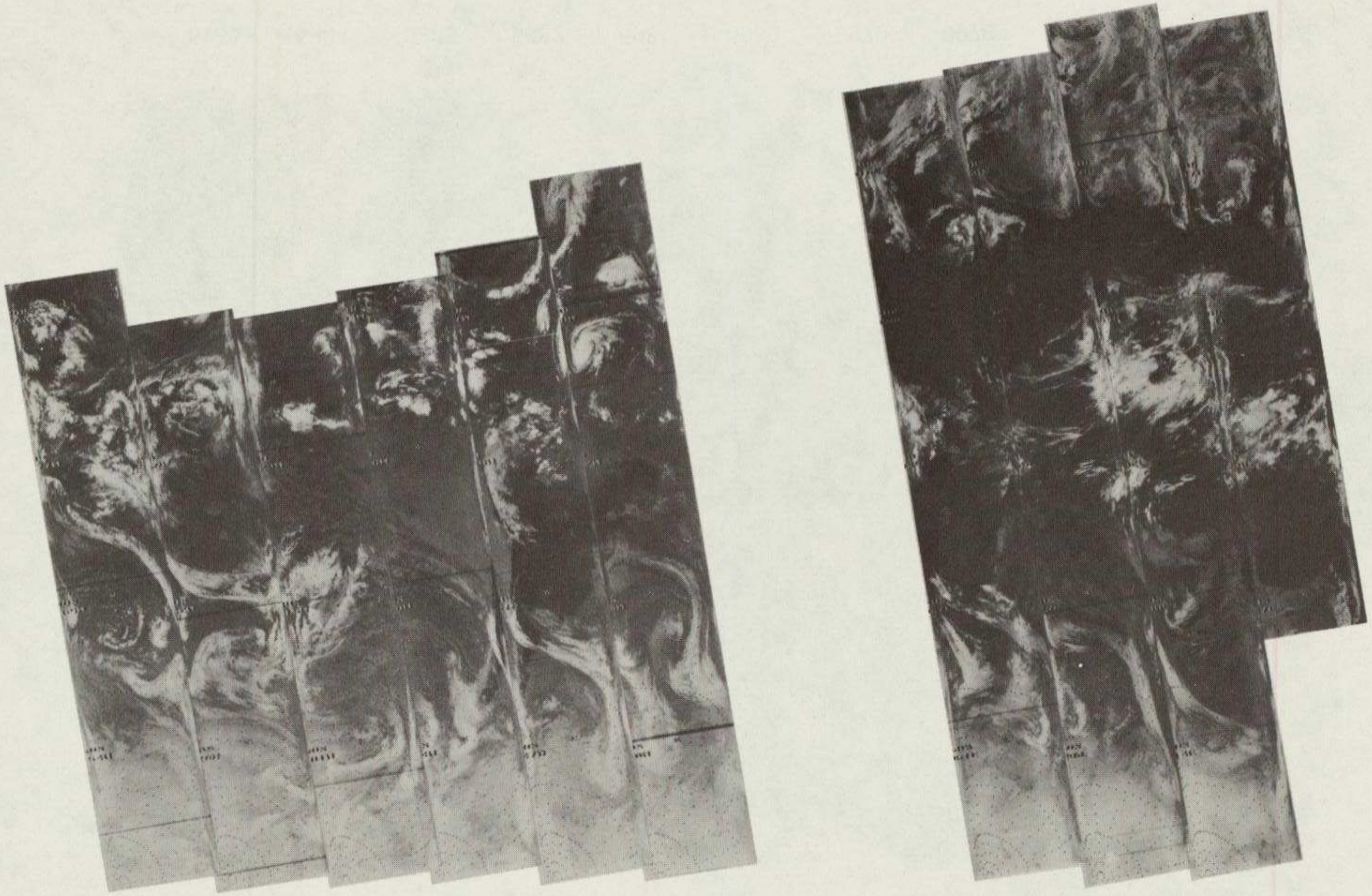
11.5 μm



5972 5971 5970 5969 5968 5967 5966 5965 5964 5963 5962 5961 5960 5959

30 AUG 76

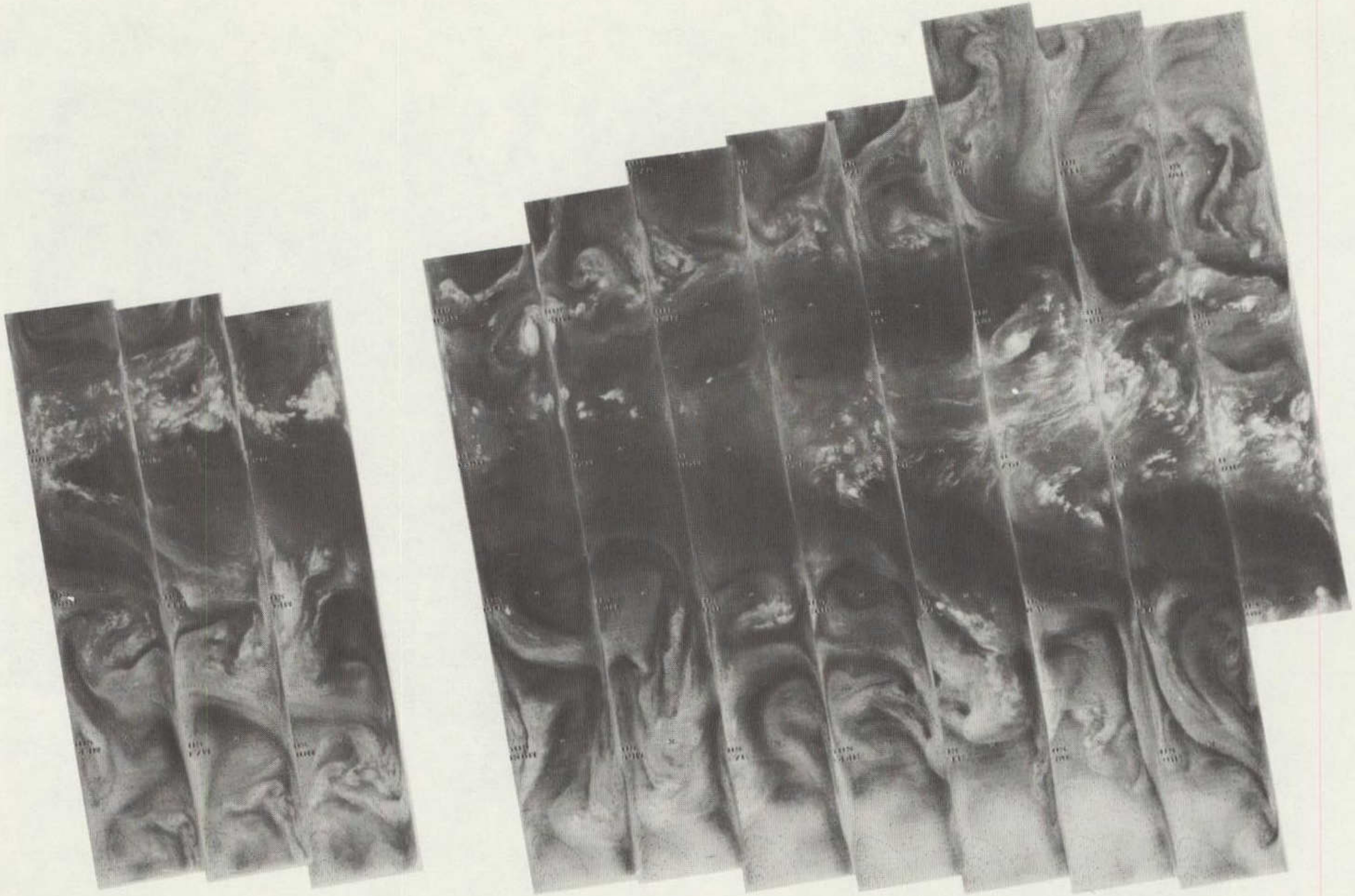
6.7 μm



5972 5971 5970 5969 5968 5967 5966 5965 5964 5963 5962 5961 5960 5959

30 AUG 76

11.5 μm



5985 5984 5983 5982 5981 5980 5979 5978 5977 5976 5975 5974 5973

31 AUG 76

6.7 μm

5985 5984 5983 5982 5981 5980 5979 5978 5977 5976 5975 5974 5973

31 AUG 76

11.5 μm

Table 5-1
This table replaces Table 3-5 on pages 54 and 55 in The Nimbus 6 User's Guide

Table 3-5

Temperature Range of Gray Scale, and Channel of HIRS Data for each Swath on each HIRS Image Display Between Orbit 426 and 4697 (14 July 1975 through 27 May 1976)

		SWATH NUMBER									
		1	2	3	4	5	6	7	8	9	10
Coverage Period 14 July-20 July Orbits 426-513	HIRS Channel Display (channel-range)†	08-08	09-09	10-10	16-16	17-17	18-18	12-12	14-14	03-03	15-15
	Temperature Range (°K) (black to white)	300-200	290-210	260-210	310-270	100-900	0-30	290-210	260-210	240-210	280-210
Coverage Period 22 July-31 July Orbits 538-545 548-549 600-613 615-647 651-657 659	HIRS Channel Display (channel-range)*	08-08	09-09	10-10	16-16	17-17	17-17	12-12	14-14	03-03	15-15
	Temperature Range (°K) (black-white)	300-200	290-210	260-230	310-270	100-900	100-900	280-200	280-200	280-200	280-200
Coverage Period 23 July-6 Aug Orbits 546-547 553-599 614 648-650 658 660-747	HIRS Channel Display (channel-range)*	08-08	16-16	16-21	18-18	17-17	10-10	12-12	14-14	03-03	15-15
	Temperature Range (°K) (black-white)	300-200	310-270	300-200	0-30	100-900	260-230	280-200	280-200	280-200	280-200

Table 3-5 (Continued)

		SWATH NUMBER									
		1	2	3	4	5	6	7	8	9	10
Coverage Period 7 Aug - 27 May Orbits 748-4697	HIRS Channel Display (channel-range)*	08-08	16-16	16-21	18-18	17-17	10-10	12-12	14-14	03-03	15-15
	Temperature Range (°K) (black-white)	310-230	310-230	310-270	0-50	100-900	280-210	300-210	300-210 **	240-185	300-185 ***

*The HIRS channel number is number before the hyphen The number after the hyphen is the computer program table used to display the data from each channel as temperatures (°K) The range of temperatures displayed in each swath is given beneath each "HIRS Channel Display " The 18 steps of the scale are used to represent the division of each temperature range into 18 approximately equal temperature intervals. The central wavelength (in μm) of each channel on these displays is channel 3 = 14 4, 8 = 11 0, 9 = 8 2, 10 = 6 7, 12 = 4 52, 14 = 4 40, 15 = 4 24, 16 = 3 71, 17 = 0 61, and 18 is the temperature difference between channel 16 and channel 8 The values of channel 17-17 are albedo, represented as "counts" between 100 (blackest) and 900 (whitest) The values for 16-21 represent a second temperature range for channel 16 data Table 3-1 on page 39 of the User's Guide provides detailed spectral information and the purpose of each of the HIRS channels

**14-14 temperature range changed to 270-210 on orbit 3166A (26 January 1976)

***15-15 temperature range changed to 275-210 on orbit 3166A (26 January 1976)

Table 5-2

This table replaces Tables 4-5 and 4-6 (on pages 79 through 81) in the Nimbus 6 User's Guide and Table 5-2 in the Nimbus 6 Data Catalog Volume 4

Table 4-5 and 6

Parameter Limits of the Gray Scale for Parameters 1, 2, 3, 5, 11, 12, and 16 on the SCAMS Image Displays between Orbits 426 and 4751 (14 July 1975 and 31 May 1976)

	Swath		1	2	3	4	5
Orbits 426 thru 1425 14 July 75 thru 26 Sept. 75	Parameter		3	2	16	11	12
	Gray Scale Value	black	280	320	10	60	1.5
			°K	°K	°K	g/mm^2	g/mm^2
		white	210	100	-22	0.0	-0.1*
Orbits 1426 thru 3675 26 Sept. 75 thru 12 Mar. 76	Parameter		3	2	16	11	12
	Gray Scale Value	black	280	320	10	60	2.0
			°K	°K	°K	g/mm^2	g/mm^2
		white	210	100	-22	0.0	0.0
Orbits 3676 thru 3899 12 Mar. 76 thru 29 Mar. 76	Parameter		5	2	16	11	12
	Gray Scale Value	black	240	320	10	70	2.0
			°K	°K	°K	g/mm^2	g/mm^2
		white	200	100	-22	0.0	0.0
Orbits 3900 thru 3929 29 Mar. 76 thru 31 Mar. 76	Parameter		1	1	1	5	5
	Gray Scale Value	black	220	265	300	240	280
			°K	°K	°K	°K	°K
		white	130	210	260	200	220
Orbits 3930 thru 4584 31 Mar. 76 thru 19 May 76	Parameter		1	1	1	2	3
	Gray Scale Value	black	220	265	300	320	280
			°K	°K	°K	°K	°K
		white	130	210	260	100	220
Orbits 4585 thru 4751 19 May 76 thru 31 May 76	Parameter		1	1	1	5	3
	Gray Scale Value	black	220	260	290	240	280
			°K	°K	°K	°K	°K
		white	130	200	245	180	220

*1.6 to 0.0 between orbit 426 and 477

Parameters 1, 2, 3, 5, and 16 represent uninverted antenna temperatures for channels 1 (22.24 GHz), 2 (31.65 GHz), 3 (52.85 GHz), and 5 (55.45 GHz). Parameter 16 is the temperature difference between channels 2 and 3. Parameters 11 and 12 represent inverted antenna temperatures of integrated atmospheric water vapor (channel 11) and integrated liquid water from clouds or precipitation.

Table 5-3

This table replaces Table 4-7 (on pages 82 and 83) in The Nimbus 6 User's Guide

Table 4-7

Contour Program Options used for Parameters 13, 14, and 15 on the SCAMS Image Display

Contour options	Parameters: 13 Mean temperature between 1000 mb and 500 mb	14 Mean temperature between 500 mb and 250 mb.	15 Mean temperature between 250 mb and 100 mb	Valid for orbits
Contour interval	4°K	4°K	4°K	426-851 (14 July-14 Aug. 1975)
Contour thickness	1°K	1°K	1°K	
Contour interval	4°K	4°K	4°K	852-4751 (14Aug.-1975-31 May 1976)
Contour thickness	2°K	2°K	2°K	

Section 4.5.3 "Tape Format" on page 83 of the User's Guide states that each tape will have "five files, i.e., a short header file . . . and four data files, . . ." There will not be a header file on the archival tape. The sentence should be changed to read: "The tapes will be standard 9-track 1600 BPI tapes, each containing four data files, one for each of four days."

In Table 4-8 on page 80 the "Pitch error" and "Roll error" "Dimensional Units" should be changed to counts (from Deg) and the "Multiplier Used" should be changed to 1 (from 32). In the same table the "Playback orbit" should be followed by one "I*2 Spare", and then by the "Reference orbit", which should be changed to I*4 (rather than I*2). (Reference orbit = year * 100,00 + day * 100 + finish hour.) The "Dimensional Units" for the "Geopotential thicknesses" on page 85 of the same table should be changed to "°K" (from DM).

The following SCAMS information has been edited by the experimenter and briefly outlines the current status of data availability, retrieval methods, and a current table of theoretical brightness temperature values.

The SCAMS instrument operated from June 15, 1975 to May 31, 1976. The data from this experiment has been processed and can be obtained from the National Space Science Data Center at GSFC. The digital data, including instrument output, calibrated antenna temperatures, deconvolved brightness temperatures, and retrieved atmospheric parameters, are recorded on a set of 87 9-track tapes. With three exceptions, each tape contains four contiguous days of data. Channel 1 and 2 brightness temperatures and five atmospheric parameters from these tapes have been dumped in a condensed format on microfiche. A typical fiche contains somewhat less than two days of data. Photographic images for individual orbits are also available.

At this time, the archived data represent the "first cut" at retrievals, and can be improved with respect to calibration of the oxygen band channels and inversion of the H_2O channels. Data prior to Jan. 2, 1976 was calibrated by assuming the radiometric temperatures of the calibration targets to be equal to their physical temperatures. Comparisons with radiosondes indicated that a more accurate calibration would be obtained with an offset of -1.2 K on the oxygen band target. The archived data starting with Jan. 2, 1976 incorporates this correction. Strictly speaking, the previous data should be recalibrated and reinverted, but for most purposes an adequate approximation can be obtained by simply subtracting 1° from the oxygen band antenna and brightness temperatures and the retrieved temperature profile. No correction was made to the H_2O targets, for lack of evidence that any was necessary.

All of the archived water vapor and liquid water retrievals were obtained by a linear algorithm. Improved retrievals, particularly in humid regions, can be obtained by use of the following nonlinear equations:

$$\text{vapor (mm)} = 72 + 12\,\alpha$$

$$\text{liquid (mm)} = 0.4\,\beta$$

where

$$\alpha = \left[7.34 \ln\left(\frac{280 - T_{01}}{280 - T_{B1}}\right) - 3.75 \ln\left(\frac{280 - T_{02}}{280 - T_{B2}}\right)\right] \cos\theta$$

$$\beta = \left[-3.34 \ln\left(\frac{280 - T_{01}}{280 - T_{B1}}\right) + 9.71 \ln\left(\frac{280 - T_{02}}{289 - T_{B2}}\right)\right] \cos\theta$$

T_{B1} and T_{B2} are the measured brightness temperatures at 22.23 and 31.65 GHz, and T_{01} and T_{02} are brightness temperatures computed for a tropical model atmosphere containing 72 mm precipitable water vapor; the latter are listed in Table 5-4 as a function of view angle θ.

The following information, describing how the antenna temperatures are computed from the SCAMS instrument digital data, should be added after SCAMS Section 4.5 of the User's Guide.

Table 5-4
Theoretical Brightness Temperatures for a Saturated Tropical Troposphere with no Clouds and a Smooth Ocean Surface
(Valid for Period 2 January 1976-31 May 1976)

θ View Angle	T_{01}	T_{02}
0	225.6	178.2
8°	225.9	177.9
17°	226.9	177.3
26°	229.2	177.5
34°	233.9	180.1
44°	242.0	187.4
53°	254.5	203.0

4.6 Post-Launch Calibration

Antenna temperatures are computed from the SCAMS Instrument digital data for each of the five channels by the equation:

$$T_A = T_{AS} + \frac{T_{AC} - T_{AS}}{d_{Tc} - d_s}(d - d_s)$$

where T_A is antenna temperature for the earth (positions 0-12), T_{AS} is the space antenna temperature (position 13), T_{AC} is the calibration target antenna temperature (position 14), d is earth data in counts, d_s is space data in counts, and d_c is calibration target data in counts. The digital data matrix is described in Table 4-2 of the Nimbus 6 User's Guide. The space calibration antenna temperature is assumed constant at 3°K for all five channels. The target antenna temperature is computed by

$$T_{AC} = T_C + T_{CO}.$$

The constant offset T_{CO} is currently zero for channels 1 and 2. The target temperatures (T_C) are given by

$$T_C = a_0 + a_1 (R - R_{25}) + a_2 (R - R_{25})^2$$

where the thermistor resistances (R) are computed by

$$R = R_1 + \frac{R_2 - R_1}{d_{R2} - d_{R1}} (d_R - d_{R1})$$

and values of the other constants are listed in Table 4-9a. Note that channels 3, 4, and 5 share the same calibration target. Also listed in Table 4-9a are word numbers in the digital data matrix containing data values d_R, d_{R1}, d_{R2}, and the recent addition of the T_{CO} value for channels 3, 4, and 5.

Table 5-5

This table accompanies Section 4.6 "Post-launch Calibration", and should be added to the end of the SCAMS section of the User's Guide

Table 4-9

Thermistor Calibration Constants used to Calculate the SCAMS Target Temperatures

<table>
<tr><th>channel / constant</th><th>1</th><th>2</th><th>3,4,5</th></tr>
<tr><td>a_0</td><td colspan="3">298.16</td></tr>
<tr><td>a_1</td><td>.46485</td><td>.46535</td><td>.46814</td></tr>
<tr><td>a_2</td><td>$3.0 \cdot 10^{-5}$</td><td>$2.9 \cdot 10^{-5}$</td><td>$3.0 \cdot 10^{-5}$</td></tr>
<tr><td>R_{25}</td><td>603.75</td><td>602.98</td><td>599.71</td></tr>
<tr><td>R_1</td><td colspan="3">495.6</td></tr>
<tr><td>R_2</td><td colspan="3">603.4</td></tr>
<tr><td>d_R (word no.)</td><td>1</td><td>11</td><td>2</td></tr>
<tr><td>d_{R1}(word no.)</td><td colspan="2">61</td><td>62</td></tr>
<tr><td>d_{R2}(word no.)</td><td colspan="2">71</td><td>72</td></tr>
</table>

Table 5-6

This table replaces Table 4-9 in Section 4.6 "Post-launch Calibration" and should be added to the end of the SCAMS section of the User's Guide.

Table 4-9a

Thermistor Calibration Constants
used to Calculate the SCAMS Target Temperatures

<table>
<tr><th>channel / constant</th><th>1</th><th>2</th><th>3,4,5</th></tr>
<tr><td>a_0</td><td colspan="3">298.16</td></tr>
<tr><td>a_1</td><td>.46485</td><td>.46535</td><td>.46814</td></tr>
<tr><td>a_2</td><td>$3.0 \cdot 10^{-5}$</td><td>$2.9 \cdot 10^{-5}$</td><td>$3.0 \cdot 10^{-5}$</td></tr>
<tr><td>R_{25}</td><td>603.75</td><td>602.98</td><td>599.71</td></tr>
<tr><td>R_1</td><td colspan="3">495.6</td></tr>
<tr><td>R_2</td><td colspan="3">603.4</td></tr>
<tr><td>d_R (word no.)</td><td>1</td><td>11</td><td>2</td></tr>
<tr><td>d_{R1} (word no.)</td><td colspan="2">61</td><td>62</td></tr>
<tr><td>d_{R2} (word no.)</td><td colspan="2">71</td><td>72</td></tr>
<tr><td>T_{CO}</td><td colspan="2">0</td><td>-1.2°K</td></tr>
</table>

5.4 ESMR Corrections to the User's Guide

The following are corrected equations for the ESMR Section of the User's Guide:

page 90

$$X\ (km) = (636 + 10.8P = 0.32P^2)\ R_J$$

page 96

$$T_B = T_A - (T_A - T_C)\ \frac{(C - C_A)}{(C_C - C_A)}$$

page 101

$$T_{\substack{Horizontal\\True}} = 1 + a\ T_{\substack{Horizontal\\Nominal}} - T_{\substack{Vertical\\Nominal}}$$

$$T_{\substack{Vertical\\True}} = 1 + b\ T_{\substack{Vertical\\Nominal}} - b\ T_{\substack{Horizontal\\Nominal}}$$

page 106

$$N_1 = 256\ (T_{H_1} - 100) + T_{V_1} - 100$$

The following information supplements Section 5.3.2 in the User's Guide.

The display format and temperature ranges of the images in the swath displays for ESMR has been changed since launch. The latest revision occurred after orbit 3932 in which each ESMR scan line is displayed once prior to orbit 3932 and twice after orbit 3933. Similarly, each of the 71 scan-spot elements is displayed once through orbit 3932 and twice after orbit 3933.

Through orbit 3932 (31 March) the ESMR displays contained 20 swaths of data, as shown in the ESMR image displays up to orbit 3932 in Section 3.3. The swaths are numbered (numbers not shown) from 1 on the left to 20 on the right. Each of the ten swaths on the left has the same geographic coverage. However, each swath displays either horizontally or vertically polarized data at a temperature range as listed in Table 5-5a. The right set of ten swaths has a similar format, and displays the earliest recorded data. If the right swaths were cut and placed above the group on the left, the new display would show the continuous coverage recorded for that orbit. Swaths 1 and 11 have the same polarization and temperature range. Similarly, swaths 2 and 12, 3 and 13, etc., are the same. The tables here labeled 5-8 and 5-9 replace Table 5-5 on page 105 of the User's Guide.

As stated above, the ESMR display format was modified at orbit 3933 (31 March 1976). After this orbit all displays will have the following new format.

The new displays contain ten swaths of data plus a geographic grid overlay for each swath, as shown in the ESMR image displays after orbit 3933 in Section 3.3, of the Nimbus 6, Data Catalog, Volume 5.

The swaths are numbered (numbers not displayed) from 1 on the left to 10 on the right. Each of the five swaths on the left has the same geographic coverage. However, each swath displays either horizontally or vertically polarized data at a temperature range as listed in Table 5-5b. The right set of five swaths has a similar format, and displays the latest recorded data. If the right swaths were cut and placed below the group on the left, the new display would show the continuous coverage of that display.

Swaths 1 and 6 display the same parameter. That is, the temperature range and polarization for swaths 1 and 6 are the same. Similarly, swaths 2 and 7, 3 and 8, 4 and 9, and 5 and 10 display the same parameters. Table 5-5b is set up to show this duplication of parameter information.

Data time (GMT) references for the left set of five swaths are shown adjacent to the vertical line at the left. Time tick marks are every five minutes with hour and minute annotation every fifteen minutes. Data time references for the right set of five swaths are shown in a similar manner adjacent to the vertical line at the right.

The center portion of the display contains two swaths of grid overlay information: the left grid for overlay on each of the five swaths on the left, and the right grid for overlay on each of the five swaths on the right. The grid longitudes are generated at ten degree intervals between 55 degrees south and 55 degrees north, and at 20 degree intervals from 55 degrees to the Poles. Latitude grids are generated every five degrees. All grid lines consist of a series of dots at one degree intervals. Latitudes are labeled at 60°S, 30°S, EQ, 30°N, and 60°N. Longitude labels are normally placed next to each latitude label.

Table 5-7

This table replaces Table 5-5 on page 105 in the User's Guide

Table 5-5

Brightness Temperature Value for each Step of the Gray Scale on ESMR Image Displays for Orbits 426 through 827 (14 July through 12 August 1975)

Gray Scale Number	Swath Number and ESMR Display Parameter									
	1 and 11 (T_H)	2 and 12 (T_V)	3 and 13 $\frac{T_H+T_V}{2}$	4 and 14 (T_H)	5 and 15 (T_V)	6 and 16 $\frac{T_H+T_V}{2}$	7 and 17 (T_H)	8 and 18 (T_V)	9 and 19 $\frac{T_H+T_V}{2}$	10 and 20 (T_V-T_H)
(black) 1	> 200			> 250			> 300			> 50
2	196-200	same	same	246-250	same	same	296-300	same	same	46-50
3	193-196	as	as	243-246	as	as	293-296	as	as	43-46
4	190-193	1 and 11	1 and 11	240-243	4 and 14	4 and 14	290-293	7 and 17	7 and 17	40-43
5	187-190			237-240			287-290			37-40
6	184-187			234-237			284-287			34-37
7	181-184			231-234			281-284			31-34
8	178-181			228-231			278-281			28-31
9	175-178			225-228			275-278			25-28
10	171-175			221-225			271-275			21-25
11	168-171			218-221			268-271			18-21
12	165-168			215-218			265-268			15-18
13	162-165			212-215			262-265			12-15
14	159-162			209-212			259-262			09-12
15	156-159			206-209			256-259			06-09
16	153-156			203-206			253-256			03-06
17	150-153			200-203			250-253			00-03
(white) 18	< 150			< 200			< 250			< 00

T_H = Brightness temperature derived from the ESMR horizontal polarization channel data

T_V = Brightness temperature derived from the ESMR vertical polarization channel data

Table 5-8

This table follows the new Table 5-6 (above), which replaced Table 5-5 on page 105 in the User's Guide

Table 5-5a

Brightness Temperature Value for each Step of the Gray Scale on ESMR Image Displays for Orbits 828 through 3932 (13 August 1975 through 31 March 1976) (Brightness Temperatures are in °K)

Gray Scale Number	Swath Number and ESMR Display Parameter									
	1 and 11 (T_H)	2 and 12 (T_V)	3 and 13 $\frac{T_H+T_V}{2}$	4 and 14 (T_H)	5 and 15 (T_V)	6 and 16 $\frac{T_H+T_V}{2}$	7 and 17 (T_H)	8 and 18 (T_V)	9 and 19 $\frac{T_H+T_V}{2}$	10 and 20 (T_V-0.6T_H)
(black) 1	> 200	> 230	> 210	> 250	> 270	> 250	> 290	> 300	> 280	> 140
2	196-200	226-230	206-210	246-250	267-270	247-250	287-290	298-300	278-280	136-140
3	191-196	223-226	203-206	243-246	264-267	244-247	284-287	295-298	275-278	133-136
4	187-191	219-223	199-203	239-243	261-264	241-244	281-284	293-295	273-275	129-133
5	183-187	215-219	195-199	235-239	258-261	238-241	278-281	290-293	270-273	125-129
6	178-183	211-215	191-195	231-235	254-258	234-238	274-278	288-290	268-270	121-125
7	174-178	208-211	188-191	228-231	251-254	231-234	271-274	285-288	265-268	118-121
8	169-174	204-208	184-188	224-228	248-251	228-231	268-271	283-285	263-265	114-118
9	165-169	200-204	180-184	220-224	245-248	225-228	265-268	280-283	260-263	110-114
10	161-165	196-200	176-180	216-220	242-245	222-225	262-265	278-280	258-260	106-110
11	156-161	193-196	173-176	213-216	239-242	219-222	259-262	275-278	255-258	103-106
12	152-156	189-193	169-173	209-213	236-239	216-219	256-259	273-275	253-255	99-103
13	148-152	185-189	165-169	205-209	233-236	213-216	253-256	270-273	250-253	95-99
14	143-148	181-185	161-165	201-205	229-233	209-213	249-253	268-270	248-250	91-95
15	139-143	178-181	158-161	198-201	226-229	206-209	246-249	265-268	245-248	88-91
16	134-139	174-175	154-158	194-198	223-226	203-206	243-246	263-265	243-245	84-88
17	130-134	170-174	150-154	190-194	220-223	200-203	240-243	260-263	240-243	80-84
(white) 18	< 130	< 170	< 150	< 190	< 220	< 200	< 240	< 260	< 260	< 80

T_H = Brightness temperature derived from the ESMR horizontal polarization data

T_V = Brightness temperature derived from the ESMR vertical polarization data

Table 5-9

This table follows the new Table 5-5a (above), which replaced Table 5-5 on page 105 in the User's Guide

Table 5-5b

Brightness Temperature Value for each Step of the Gray Scale on ESMR Image Displays for Orbits 3933 through 5985 (31 March through 31 August 1976)

(Brightness Temperatures are in °K)

Gray Scale Number	Swath Number and ESMR Display Parameter				
	1 and 6 (T_H)	2 and 7 (T_H)	3 and 8 (T_H)	4 and 9 (T_V)	5 and 10 $\left(\frac{T_H+T_V}{2}\right)$
(black) 1	>200	>230	>210	>250	>270
2	196-200	296-230	206-210	246-250	267-270
3	191-196	223-226	203-206	243-246	264-267
4	187-191	219-223	199-203	239-243	261-264
5	183-187	215-219	195-199	235-239	258-261
6	178-183	211-215	191-195	231-235	254-258
7	174-178	208-211	188-191	228-231	251-254
8	169-174	204-208	184-188	224-228	248-251
9	165-169	200-204	180-184	220-224	245-248
10	161-165	196-200	176-180	216-220	242-245
11	156-161	193-196	173-176	213-216	239-242
12	152-156	189-193	169-173	209-213	236-239
13	148-152	185-189	165-169	205-209	233-236
14	143-148	181-185	161-165	201-205	229-233
15	139-143	178-181	158-161	198-201	226-229
16	134-139	174-178	154-158	194-198	223-226
17	130-134	170-174	150-154	190-194	220-223
(white) 18	<130	<170	<150	<190	<220

T_H = Brightness temperature derived from the ESMR horizontal polarization data

T_V = Brightness temperature derived from the ESMR vertical polarization data

5.5 ERB Corrections to the User's Guide

Post-launch calibration procedures are described below. While some numbers are for the period of this catalog, the calibration procedure is valid for all data. This information can be added as Section 6.5a to the User's Guide and would fit on page 134.

6.5a Post-launch Calibration

The observations from the wide angle channels (11 and 12), which measure the total energy ($<0.2\,\mu$m to $>50\,\mu$m) emitted and reflected by the earth, depend on the prelaunch calibration and pertinent instrument temperatures. Assuming unit emissivity for the target scene, the irradiance from the scene is given by,

$$H_T = [\Delta W - \epsilon_s F_s \sigma T_s^4 + \epsilon_d F_d \sigma (T_d + K\,v)^4]$$

where

ΔW = effective thermopile irradiance (w m^{-2})

σ = 5.6697×10^{-8} w m^{-2} (deg. K)$^{-4}$

ϵ_s = emissivity of FOV stop = 0.965

F_s = view factor of the FOV stop = 0.18892

T_s = temperature (°K) of the FOV stop

ϵ_d = emissivity of the thermopile = 0.977

F_d = view factor of the thermopile = 0.80461

T_d = temperature (°K) of the thermopile base

K = factor relating thermopile base temperature to thermopile surface temperature = 0.0031°K per count

v = thermopile output in digital counts

The effective thermopile irradiance (ΔW) is obtained from the thermopile output (v) as follows:

$$\Delta W = a_o\,(T_m) + a_1\,(T_m)\cdot v$$

where

$$a_o = C_o + C_1\,T_m,$$

and

$$a_1 = d_o + d_1\,T_m$$

are derived from prelaunch calibrations and depend on the module temperature (T_m, °C). The coefficients C_o, C_1, d_o, d_1 are given below. In calibrating channel 11 and channel 12 (W) with the FOV stop out, the quantity F_s in the equation for H_T is set to zero.

	Ch. 11	Ch. 12 (W)	Ch. 12 (N)
C_o:	9.86	10.4	8.38
C_1:	0.18358	0.23235	0.18483
d_o:	0.6042	0.6035	0.6014
d_1:	-8.254×10^{-4}	-6.109×10^{-4}	-5.879×10^{-4}

The observations from the other two wide-angle channels (13 and 14), which measure the shortwave radiation (0.2 μm to 4.0 μm), and (0.7 μm to 3.0 μm), are transformed to irradiance (H) by,

$$H = \frac{(V - V_o)}{S_T}$$

where V is the digital counts, V_o is the offset (in counts) observed from dark FOV's, and S_T is the sensitivity (w m^{-2} $count^{-1}$) obtained from the equation: $S_T + S_o(1+(0.01) \cdot (T-25) \cdot STC)$, where S_o is the sensitivity at 25°C, T is the detector temperature (°C), and STC is the sensitivity temperature coefficient (percent per degree C). These constants are given below:

Ch	V_o	S	STC
13	-41	2.004	0.04
14	-44	3.989	0.03

The interpretation of digital counts (V) from the shortwave scanning channels (15-18) gives the radiance (w m^{-2} sr^{-1}) of the scene (N_s) by,

$$N = \frac{(V - V_o)}{S_T}$$

where V_o is the offset (counts) obtained during views of the internal blackbody or space. The sensitivity S_T at temperature T(°C) is obtained using the equation for S_T described above, and the constants given below.

Ch	V_o	S	STC
15	-3	3.155	0.0
16	0	3.275	0.03
17	-1	3.116	-0.01
18	15	2.963	-0.05

A series of checks on the sensitivity of these channels, using the on-board diffuse target, indicated no noticeable degradation over the July-August period of operation.

The longwave scanning channels (19-22) have had numerous inflight calibrations which have remained essentially unchanged since 3 July. The calibration coefficients, a_0 and a_1 relate digital counts (V) to the scene radiance N (w m^{-2} sr^{-1}) as follows:

$$N_s = N_m + a_o + a_1 \cdot V$$

where N_m is the radiance of the detector module. The radiance N_s is the actual radiance measured within the spectral limits of the filter (4.5 μm to 50 μm). The calibration coefficients, obtained from inflight calibrations on 3 July, are as follows:

Ch	a_o	a_1
19	-0.82	0.09583
20	-0.60	0.10535
21	-1.26	0.10168
22	-0.29	0.10338

The deviations of these calibration coefficients as derived from inflight calibrations from 29 July to 20 August are shown in Table 6-6a. The only change which indicates a need for updating the calibration coefficients is the change in the intercept of channel 20.

Periodic checks of the electronic gains of channels 1 through 14 have shown that the electronic gains have remained within 0.5 percent of the prelaunch values, with few exceptions. Table 6-6a shows the percentage of maximum deviation in the gain ratios (current/prelaunch) for the three steps in the calibration staircase voltage. The 6.5 percent change in the high-level gain of channel 2 and the gain changes in channels 6, 7, and 8 are believed to be caused by radio-frequency interference with the electronic calibration circuit and is neither a real change in the electronic gain nor nonlinearities of the channels.

Table 5-10

This table is part of the new Section 6.5a "Post-launch Calibration" to be added to the ERB section of the User's Guide

Table 6-6a

Stability of Calibration of the
ERB Longwave Scanning Channels
(between 29 July and 20 August 1975)

	Channel 19		Channel 20		Channel 21		Channel 22	
Date	Δa_o	Δa_1	Δa_o	Δa_1	Δa_o	Δa_1	Δa_o	Δa_1
7/29	-0.07	-0.4	1.12	0.5	-0.07	-0.4	0.36	-0.3
8/5	0.50	-0.3	1.22	0.1	0.08	-0.3	0.11	-0.2
8/8	0.68	-0.4	1.33	0.1	0.04	-0.2	-0.003	-0.1
8/12	-0.06	-0.2	0.74	-0.4	-0.09	-0.3	0.17	-0.2
8/17	0.69	-0.3	1.49	0.2	0.20	-0.3	0.16	-0.2
8/20	-0.22	-0.3	1.53	0.2	0.04	-0.2	0.13	-0.4

Δa_o = change in intercept (w m^{-2} sr^{-1})

$$= (a_o)_{current} - (a_o)_{7/3/75}$$

Δa_1 = change in slope (% w m^{-2} sr^{-1} ct^{-1})

$$= \frac{[(a_1)_{current} - (a_1)_{7/3/75}]}{(a_1)_{7/3/75}} \times 100$$

Table 5-11

This table is part of the new Section 6.5a "Post-launch Calibration" to be added to the ERB section of the User's Guide

Table 6-6b

Percentage Change of the Maximum Deviation in the Gain Ratio between Post-launch and Prelaunch Gain Values for ERB channels 1 through 14 (20 June and 17 August 1975)

Ch	$G_{0\text{-}39}$	$G_{30\text{-}60}$	$G_{60\text{-}90}$
1	-0.2	0.2	-0.1
2	0.1	-0.3	-6.5
3	±0.1	-0.1	-0.2
4	±0.1	-0.2	-0.1
5	±0.1	-0.2	0.2
6	2.6	1.8	-2.1
7	1.3	2.1	-0.6
8	1.6	1.3	-0.9
9	0.4	-0.6	±0.1
10	0.7	-0.5	±0.2
11	-0.4	0.3	0.4
12	0.2	-0.2	0.4
13	-0.3	0.2	0.3
14	+0.2	-0.1	0.3

Table 6-7, the ERB Compacted Archival Tape Format, on pages 136 through 139 of the User's Guide, should be changed as follows:

Directory Record (Page 136)

Delete last line of section A which reads:

"135-340	Zero fill	1"

and add the following:

135-149	Orbital Elements	
135	Day of Epoch	1
136	Year of Epoch	1
137	Hours	1
138	Minutes (including fraction)	100
139	Eccentricity	10^5
140	Argument of Perigee (integer part)	1
141	Argument of Perigee (fraction part)	10^3
142	Right Ascension (integer part)	1
143	Right Ascension (fraction part)	10^3
144	Inclination (integer part)	1
145	Inclination (fraction part)	10^3
146	Semimajor Axis (km, integer part)	1
147	Semimajor Axis (km, fraction part)	10^3
148	Mean Anomaly (integer part)	1
149	Mean Anomaly (fraction part)	10^3
150	Sun-Earth Distance (A. U.)	10^4
151-340	Zero fill	1

Orbital Summary Record (Page 139)

Delete last line of table, which reads:

17-340	Zero fill	1"

and add the following:

17-26	Solar Irradiances (Chs. 1-10) Normalized to mean sun-earth distance	Chs. 1-5:10 Chs. 6-10:100
27	Solar Channels Assembly Gamma Angle (positive to right of track)	1
28-340	Zero fill	1

5.6 LRIR Corrections to the User's Guide

Table 5-12

Post-launch analysis of relative spectral response data and orbital data leads to the following corrected values for Table 7-2, on page 154 of the User's Guide

Table 7-2

Optical Characteristics of LRIR Channels

Channel		Band Pass (50% Peak Response)	Field-of-view (km)		Random noise in orbit* $\pm 1\sigma$(watts/m^2-sr)
No.	Abbrev.		Vertical	Horizontal	
1	NCO_2	649-672 cm^{-1} (14.9-15.4 μm)	2.0	20	0.0023
2	BCO_2	592-700 cm^{-1} (14.3-16.9 μm)	2.0	20	0.0040
3	O_3	984-1169 cm^{-1} (8.6-10.2 μm)	2.0	20	0.011
4	H_2O	412-446 cm^{-1} (22.4-24.3 μm)	2.5	25	0.008

*Noise will gradually increase as the detector temperature increases during the useful life of the experiment.

5.7 PMR Corrections to the User's Guide

There are no PMR corrections to the User's Guide.

5.8 TWERLE Corrections to the User's Guide

Table 5-13
The following are address changes to Table 9-2
on page 186 in the User's Guide

Table 9-2
Nimbus RAMS Experiments - Address Changes

Address Changes

OLD	NEW
Mr. G. R. Cresswell Division of Fisheries & Oceanography Commonwealth Scientific & Industrial Research Organization Melbourne, Australia	Mr. G. R. Cresswell Division of Fisheries & Oceanography CSIRO P. O. Box 21 Cronulla, N. S. W. 2230 Australia
A. J. Dyer CSIRO P. O. Box 77 Mordialloc, Vic 3195 Australia	Dr. A. J. Dyer Division of Atmospheric Physics CSIRO Station Street ASPENDALE 3195 Victoria, Australia
Professor Pierre Lacombe, Director Laboratory d'Oceanographic Museau Historie Naturelle de Paris 43 Rue Cuvier Paris, France	Professor Pierre Lacombe, Director Laboratoire d'Oceanographie Physique Museum National d'Histoire Naturelle 43-45 Rue Cuvier 75005 Paris, France
Professor P. Tchernia Museum d'Historie Naturelle de Paris 43 Rue Cuvier Paris, France	Professor P. Tchernia Laboratoire d'Oceanographie Physique Museum National d'Histoire Naturelle 43-45 Rue Cuvier 75005 Paris, France

Table 9-2 (Continued)

Dr. Norbert Untersteiner, Program Director Project AIDJEX 4059 Roosevelt Wave, N. E. Seattle, WA 98105	Dr. Norbert Untersteiner AIDJEX Coordinator University of Washington 4059 Roosevelt Way, N. E. Seattle, Washington 98105
Dr. Donald V. Hansen, Director Physical Oceanography AOWL NOAA U. S. Department of Commerce Miami, Florida	Dr. Donald V. Hansen, Director Physical Oceanography Laboratory AOML/NOAA 15 Rickenbacker Causeway Virginia Key Miami, Florida 33149
Vincent E. Lally National Center for Atmospheric Research P. O. Box 1470 Boulder, Colordao 80302	Mr. Vincent E. Lally National Center for Atmospheric Research P. O. Box 3000 Boulder, Colorado 80302
J. Lentfer Wildlife Research U. S. Department of Interior 813 D. Street Anchorage, Alaska	Mr. Jack W. Lentfer Fish and Wildlife Service Department of Interior 4454 Business Park Blvd. Anchorage, Alaska 99503
H. Brann Bureau of Meteorology Melbourne, Victoria Australia	Mr. H. N. Brann Bureau of Meteorology P. O. Box 1289K Melbourne, Victoria 3001 Australia
Robert Kee Development Engineering Division Code 6201 U. S. Naval Oceanographic Office Washington, D. C. 20390	Mr. Robert Kee Code 6220 U. S. Naval Oceanographic Office Washington, D. C. 20373

Table 9-2 (Concluded)

F. Anderson South African Council for Scientific & Industrial Research Congella, Natal, South Africa	Mr. Frank P. Anderson CSIR, Institute for Technology P. O. Box 17001 Congella 4013 South Africa
H. Stommel Professor of Oceanography MIT Cambridge, Massachusetts	Professor Henry Stommel Department of Meteorology Room 54-1416 Massachusetts Institute of Technology Cambridge, Massachusetts 02139
B. Buck Polar Research Lab. Santa Barbara California 93101	Mr. B. M. Buck, President Polar Research Laboratory, Inc. 123 Santa Barbara Street Santa Barbara, California 93101
John A. Knauss Graduate School of Oceanography University of Rhode Island Kingston, Rhode Island 02881	Dr. P. L. Richardson Woods Hole Ocean Institute Woods Hole, Massachusetts 02543

5.9 T&DRE Corrections to the User's Guide

There are no T&DRE corrections to the User's Guide.

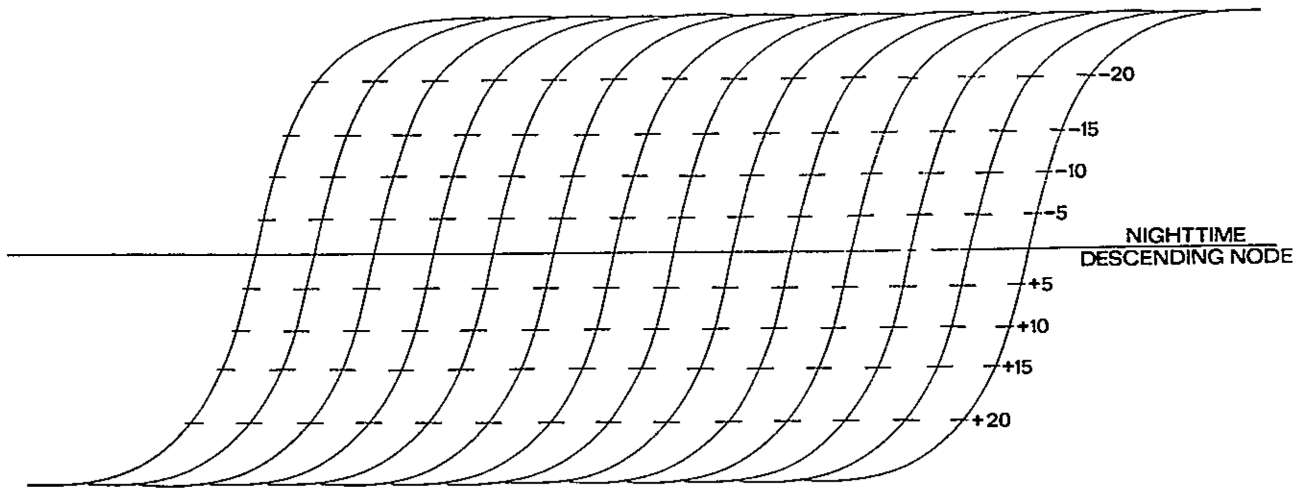
Table 5-14

The following are new TWERLE users, added since launch. This information should be added to Table 9-2 (Nimbus RAMS Experiments) on page 186 in the User's Guide.

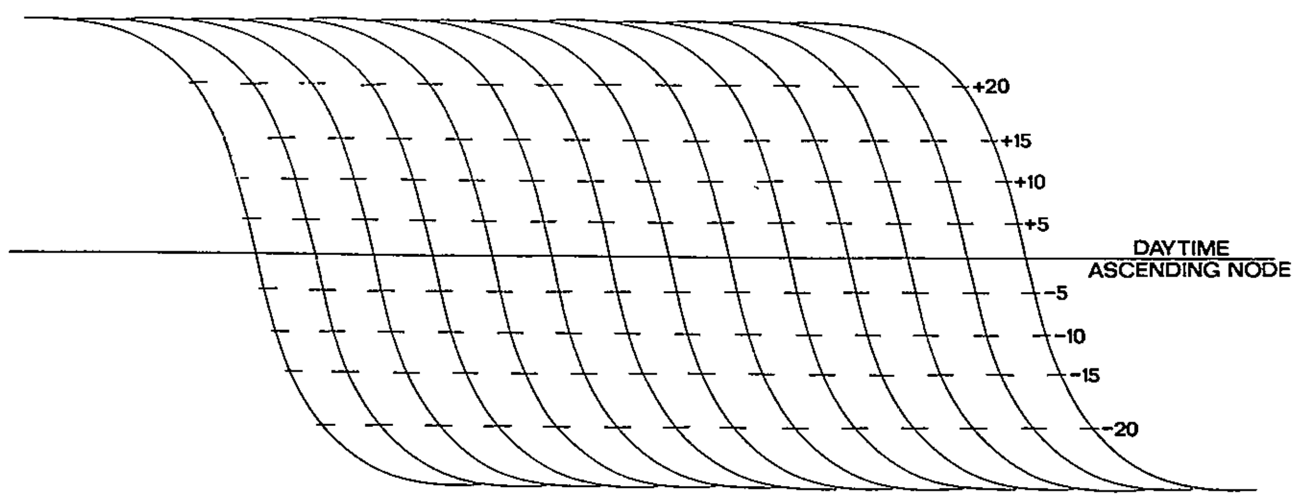
Principal Investigator	Experiment Title	Platform		
		Number	Type	Deployment Area
Dr A. D. Kirwan, Jr. Department of Oceanography College of Geosciences Texas A & M University College Station, Texas 77843	Anomaly Dynamics Study (ADS)	32	Drifting Buoys	North Pacific
Mr. David F. Thomas, Jr. SATD-MEB-SDS, Mail Stop 322 NASA Langley Research Center Hampton, Virginia 23665	Air-droppable In Situ Platforms for Long Duration Measurements near Hurricanes	10	Ocean Platforms	Western Atlantic near North America
Dr. P. Roger Williamson Department of Applied Physics & Information Science University of California – San Diego La Jolla, California 92037	Stratospheric Monitoring with Longterm Balloon Flights	3	Super-pressure Balloons	Southern Hemisphere
Mr. J. C. O'Rourke Canadian Marine Drilling Ltd. P. O. Box 200 Calgary, Canada T2P 2H8	Arctic Ice Dynamics	2-4	Sea Ice Platforms	Beaufort Sea
Dr. J. Michael Hall NOAA Data Buoy Office National Space Tech Office Bay St. Louis, Mississippi 39520	East Coast Drifting Experiment	24	Drifting Buoys	Atlantic Ocean
	High Impact Detection and Determination on Large Buoys	10	Buoy	Atlantic Ocean, Gulf of Mexico, & North Pacific Ocean
	Reliability Enhancement Experiment	3	Buoy	Santa Barbara, California & Arctic Ocean
Mr. Robert Oehlkers University of Wisconsin Space Science and Engineering Center 1225 W. Dayton St. Madison, Wisconsin 53706	Buoy Experiments in Lake Michigan	10	Buoy	Lake Michigan

Table 5-14 (Continued)

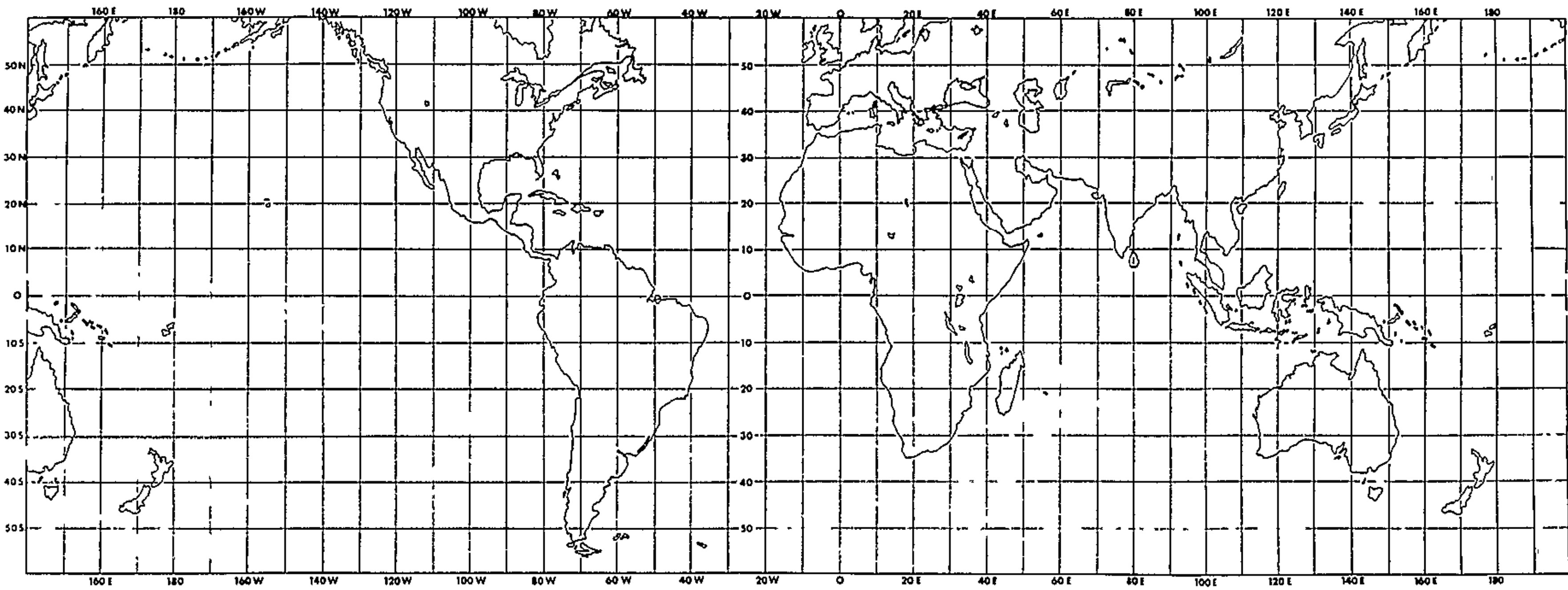
Capt. E. A. Delaney USCG Oceanographic Unit Bldg. 159E Navy Yard Navy Yard-Annex Washington, D.C. 20590	North Atlantic and Labrador Current Studies	1	Drifting Buoys	North Atlantic, Labrador Coast
Dr. R. H. Goodman Innovative Ventures, Ltd. 4632 11th St. Calgary Alberta, Canada T2E2W7	Ice Monitoring in the Canadian Arctic and Labrador Region	2	Drifting Buoys	Canadian Arctic, Labrador
Dr. D. Halpern NOAA Pacific Marine Env. Labs. Univ. Washington WB10 Seattle, Washington 98195	Ocean Circulation Studies and Pacific Equatorial Waters	3	Drifting Buoys, Moored Buoys	Mid-Pacific Equatorial



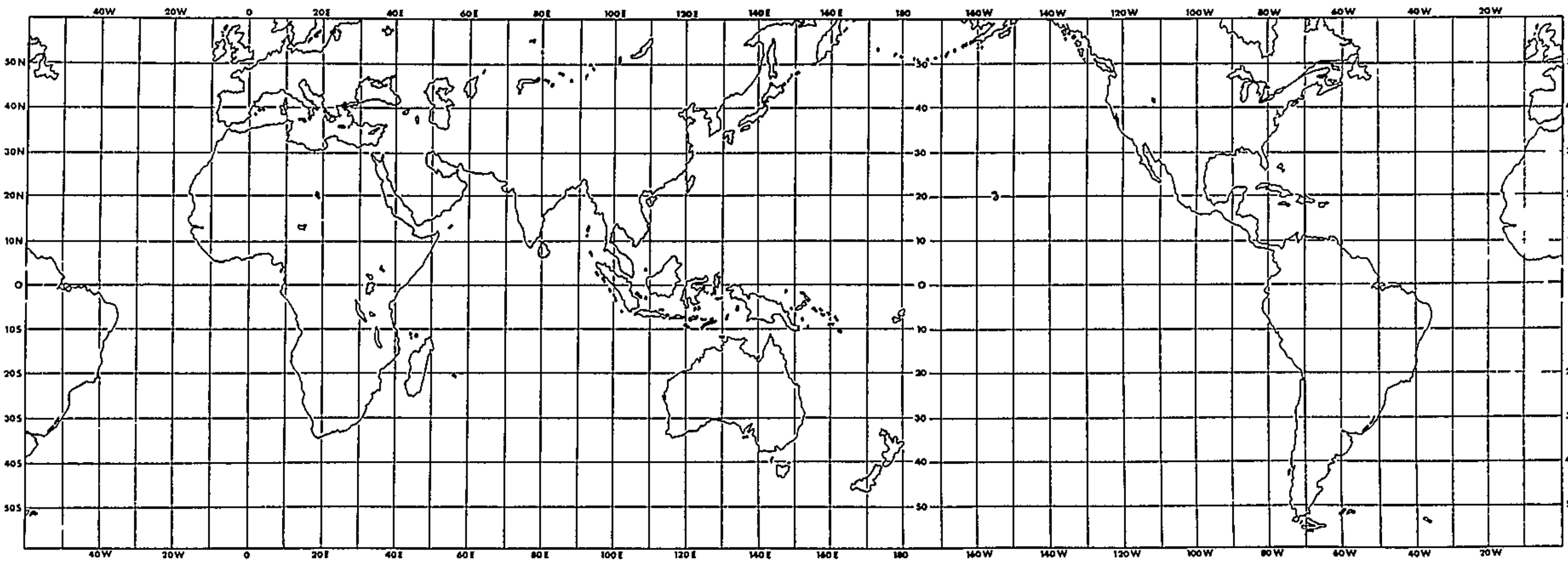
NIMBUS SUBSATELLITE TRACKS OVERLAY



NIMBUS SUBSATELLITE TRACKS OVERLAY



Location Guide
Average Scale for Nimbus
THIR Daytime Montages



LOCATION GUIDE
AVERAGE SCALE FOR NIMBUS
THIR NIGHTTIME MONTAGES